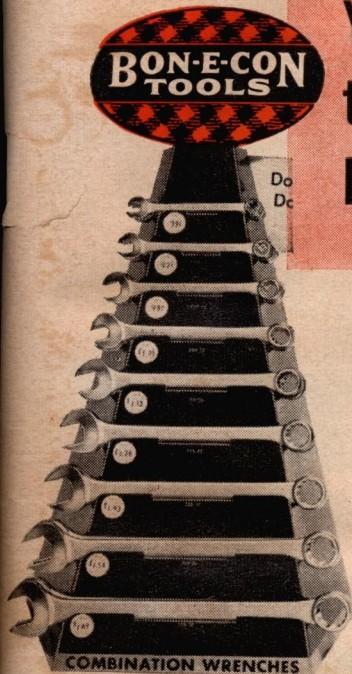


You can get into the
tool business with these
BON-E-CON merchandisers!



No. ZDL-3: 23 Combination Wrenches



No. ZDL-2: 20 Box Wrenches



No. ZDL-1: 13 Open End Wrenches

You *belong* in the tool business. It's silly to have your mechanics running down the street to buy tools they need to do the right kind of job. It's just as silly to have customers who bring cars to you for service go elsewhere for tools for home repairs, hobbies, or even for use on their regular job.



Set up the eye-catching Bon-E-Con pyramids where mechanics and customers can see them and you're in the tool business! These self-selling merchandisers are a service to your mechanics, a convenience to your customers, and a source of profit to you. Bon-E-Con pyramids include the most popular, fastest-selling sizes of open end, box, and combination wrenches . . . quality tools at a price anyone can afford. Prices, tool numbers, and sizes of all openings are displayed prominently—tools actually sell themselves. Ask your jobber for the complete story.

BONNEY FORGE & TOOL WORKS
ALLEN TOWN... PENNSYLVANIA

*** BETTER
break
with**



Our new catalog was mailed last month. If we missed you, please tell us.

*** BETTER made!**

Many items are improved over Original Equipment.

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Boxes are clearly marked for faster car identity.

BETTER catalogued!

Easy-to-read complete catalogs for Stocking Dealers, Jobbers, and Distributors.

BETTER profit!

For Stocking Dealers, Jobbers and Distributors.

**BETTER brakes
for your customers...
BETTER breaks for YOU!**

EIS AUTOMOTIVE CORP. MIDDLETOWN, CONN.

SEE US IN CHICAGO — A81-85

**JUST IN TIME FOR YOUR
FALL SERVICE WORK!**



SPECIAL OFFERS ON 3 PERMATEX RADIATOR PRODUCTS



**SPECIAL
OFFER
#252**

PERMATEX HEAVY DUTY RADIATOR CLEANER

Dissolves rust, scale and lime . . . fast! No neutralizer necessary. Harmless to rubber and metal parts.

10 qts. Heavy Duty Radiator Cleaner @ \$1.50	\$15.00
2 qts.	\$15.00
4 qts.	6.00
Less 40% dealer discount.....	\$9.00
You pay only.....	

You pay only.....

\$9.00

PERMATEX RADIATOR CEMENT (Liquid Sealer)

Prevents seepage of permanent-type anti-freeze and stops radiator leaks. Will not clog or interfere with water circulation.

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6 ½ pts.	\$19.50
Less 40% dealer discount.....	7.80
You pay only.....	\$11.70

**SPECIAL
OFFER
#253**



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Stops squeaks and grunts caused by wear. Prolongs the life of new or old water pumps. Contains Anti-Rust for extra protection throughout the entire cooling system.

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4 12-oz. cans.....	\$17.00
Less 40% dealer discount.....	6.80
You pay only.....	\$10.20



**SPECIAL
OFFER
#254**

MOTORISTS HAVE CONFIDENCE IN THE PERMATEX NAME. PERMATEX PRODUCTS ARE ADVERTISED NATIONALLY IN THE SATURDAY EVENING POST, POPULAR SCIENCE AND POPULAR MECHANICS.



Order your fall stocks now. Just use the Special Offer number when ordering. Your jobber will serve you promptly. Or, write to Permatex, giving jobber's name.

PERMATEX COMPANY, INC., Brooklyn 35, N. Y.
MORE THAN 50 CHEMICAL PRODUCTS FOR BETTER AUTOMOTIVE MAINTENANCE

November 15, 1954

Editorial contents

Readers Question Box	10	Automotive Calendar	154
MOTOR SERVICE News Flashes 14 & 18		Dealer Dates	155
Shop Kinks	26	Empire State Passes	155
Forecast Is for Peace and Progress	30	Inspection Law ...	155
Car Life Span Increasing	37	How-To-Do-It Manu-	
'55 Chevrolet 8 and Two Sixes ..	38	als	148
1955 Chrysler Line Is New	40	Buyers' Guide	171
Engines Like Automatic Transmis-			
sions	42		
Mac Speeds a Pit Stop	44		
Powerflite Transmission Service ..	46	PROFIT MAKING PRODUCTS	
New V-8 for '55 Pontiac	49	Planetary Removing Tool	90
1955 Buick	50	Turntable Made by Macton	90
Picture Spread	54	Latest Graymills Catalog Available	90
Refinishing Instrument Panels ..	57	Hy-Lo—Portable Space Heater	150
Dodge Trucks Get 145-h.p. V-8 ..	66	Toledo Adds to Line	150
Studebaker Line Includes President		Terminal Dispenser Developed by Stand-	
Factory Service Hints	70	ard Motor	152
Champion Designs New Plug ..	74	Truck-Bus Mufflers from A-T-I	153
Bad Brakes Crumple Fenders	78	Pruden Adds a Porta-Riveter	156
Muskegon Makes Rings of Pow-		Thor Announces New SpeedSander	156
ered Iron	82	Fliko Makes Pre-Set Contacts	158
TBA Merchandising	86	Self Propelled Rotary Mower Introduced	
AC Makes Change in '55 Line of		by Worcester	159
Plugs	93	Duro-Chrome Ratchet Wrench	159
Public Buying More Gas and Oil ..	93	DeVilbiss Paint Heater	160
		Parts Master Cleans Small Parts	160
		New Line of Automotive Chemicals	162
		Weller Has New "Junior" Soldering	
		Gun	162
		Tubeless Tire Bead Expander	163
		Lubricant to End Speedometer Troubles	164
		XtraLoader Helper Spring	164
		Three New Wheel Service Machines	
		from Bear	166
		Rustgon Is New Turco Cleaner	168
		Lining and Lined Shoe Specs on New	
		Raybestos Chart	168
		Information Request Coupon	169

Published Monthly By

Motor Service

549 W. Washington Blvd., Chicago 6, Ill.

Subscription price, \$4.00 per yr. Acceptance under
Section 34.64 P. L. & R. authorized.



YOUR STOCKROOM! AT YOUR JOBBER'S JUST AROUND THE CORNER!

He stocks all your service needs!

The parts you need when you need 'em . . . for *any* make or model. The tools you need to do the job right! The supplies and equipment you need to keep improving *your* service.

*All at one place . . . and only one place—your jobber's! Without him, you'd be chasing all over town, all day. You've got a big stake in his success . . . because his stockroom is *your* stockroom!*



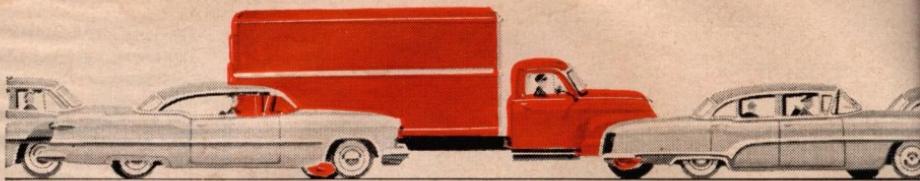
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INLITE BRAKE LININGS

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BUICK • *Cadillac* • **CHEVROLET** • **GMC**
OLDSMOBILE • **PONTIAC** CHASSIS AND ENGINE PARTS

General Motors Original Equipment Parts

**Used on nearly half
the cars on the road**

*Readily available from your United Motors
Independent Automotive Wholesaler*

There's no better sales combination than recognized quality, a ready-made market, and complete availability of products. That's exactly what these lines offer you.

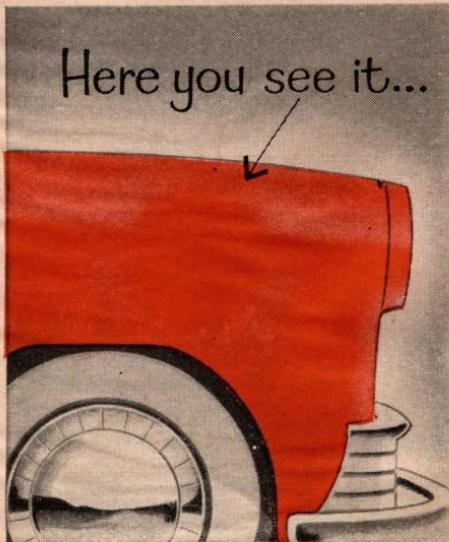
The General Motors products you see here are world-famous for quality and unsurpassed for performance—in fact, they're the foremost choice of automotive engineers and motorists alike.

As for a ready-made market—there's none better! These parts are used on almost every other car that passes your place of business. And when it comes to availability—no matter where you are, you're close to a UMS independent wholesaler. He will be glad to help you get started with these famous lines of original equipment parts. See about it today!

GENERAL MOTORS PRODUCTS



UNITED MOTORS LINES



Spot repairs without "spots"!

... done with

S-W OPEX® HARMONIZER

Differences in appearance between spot repairs and original finish just disappear when you add OPEX HARMONIZER to the last coat of lacquer!

OPEX HARMONIZER employs well-known optical principles as applied to color to blend new lacquer with old enamel visually as well as physically. By adding transparency to the top-coat, OPEX HARMONIZER aids



feathering . . . blends any slight differences in tone so imperceptibly that the eye cannot distinguish them.

OPEX HARMONIZER gives added gloss and flow, too . . . reduces need for rubbing . . . makes color matching easier, especially on metallics. Try it out today! Call your Sherwin-Williams OK Automotive Jobber, or write: The Sherwin-Williams Co., Automotive Division, Cleveland 1, Ohio.

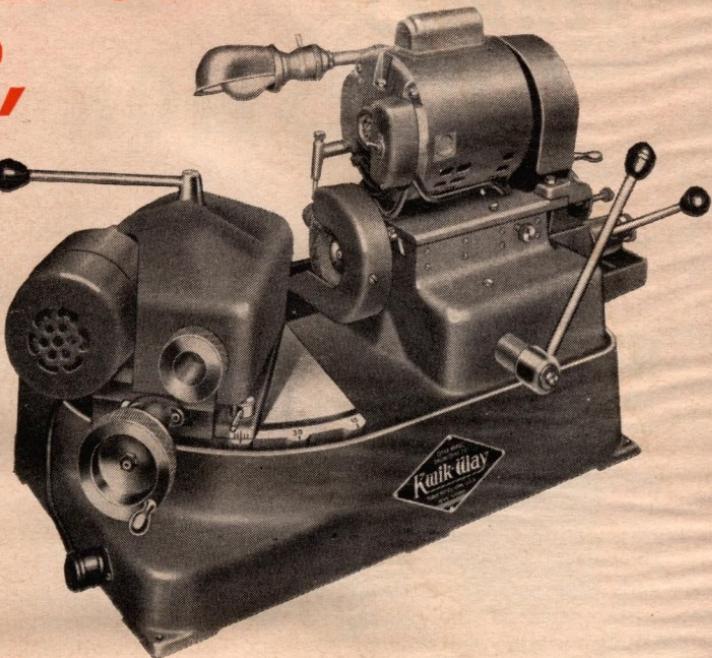


SHERWIN-WILLIAMS
AUTOMOTIVE FINISHES



A BETTER JOB FASTER, EASIER

with the NEW
KWIK-WAY
Super-Matic
Valve Facing
Machine



This outstanding new valve facing machine makes it easy to obtain extreme accuracy and superior finish, with smooth, simplified operation. For better valve facing work, the answer is Kwik-Way's Super-Matic.

- extreme accuracy
- superior finish
- smooth, easy operation
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- rugged construction. Built to highest standards for fine machine tools.

See and operate the Super-Matic in your shop. No obligation.
Call your Kwik-Way representative for a free demonstration.

MAIL THIS COUPON TODAY

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Serving the Motor Rebuilding Industry
Since 1920

VALVE FACING MACHINES • VALVE SEAT GRINDERS • VALVE SEAT INSERT TOOLS • VORTEX SUCTION DEVICE CYLINDER BORING MACHINES • LINE BORING MACHINES • PISTON CAM TURNING AND GRINDING MACHINES.

CEDAR RAPIDS ENGINEERING CO.
904 17th St., N.E., Cedar Rapids, Iowa

Tell me more about this remarkable new valve facing machine.

- Send literature.
 Have your representative come in and demonstrate the Super-Matic--at no cost or obligation.

Name _____

Company _____

Street _____

City _____ State _____

READERS?

QUESTION BOX

Plymouth Hy-Drive Leaks

WE HAVE a Plymouth which has been running for 24,000 kilometers. The Hy-Drive is draining oil to the ground.

It was suggested at first by our mechanic that the oil drain is coming from the oil pan ends, but later it was assumed that draining is from the Hy-Drive inasmuch as the oil pan ends were correctly fitted.

We replaced the oil seals in the Hy-Drive with the original numbers, 1608142, but without success, draining did not stop.

We attempted twice again, on every time installing new oil seals, still oil is draining, and nothing could stop it.

STUCK? NEED HELP? Write us on your shop letterhead about your trouble shooting problems and you will have an answer by return mail. There is no charge for this service. Motor Service Magazine, 549 W. Washington Blvd., Chicago 6, Ill.

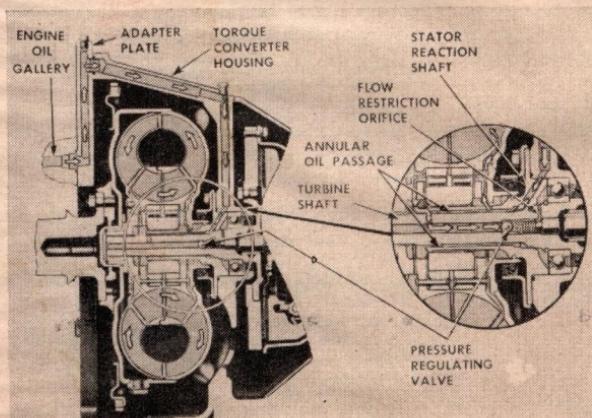
Jud Purvis

TECHNICAL EDITOR

Now, the Hy-Drive is draining when the car is idling. We are consequently referring this matter to you so as to attempt your suggestion on this oil drainage, presuming that the Hy-Drive is working completely well. It still requires one litre of oil in every 100 kilometers. *Basile Homsy Co., Aleppo, Syria.*

Answer: After careful consideration of your problem with the Plymouth, we suspect the difficulty to be in the oil seals either between the engine block and the adapter plate or between the adapter plate and the transmission housing.

If these seals are defective or twisted at the time of installation, oil leaks are liable to re-



Lasco

SUPER-BLOX FOR America's Finest Cars

BONDED
OR
RIVETED
SHOES



From Hollywood to Manhattan, LASCO SUPER BLOX are DEMANDED by hundreds of responsible brake specialists for their use in car and heavy truck customers. They know from years of experience the SUPERIOR PROVEN PERFORMANCE and SAFETY of LASCO SUPER BLOX on high-powered cars equipped with automatic transmissions. They realize their own responsibility and take no chances with anything less than America's Finest Brake Lining.

Designed by an organization of ENGINEERS, with laboratory testing equipment second to none, and the World's Largest and Toughest Moving Grounds—the Western Mountain Ranges, right at their back door, the stamina and longevity of LASCO SUPER BLOX areatters of record. That's why they are sold with a written guarantee up to 50,000 miles and a life expectancy of 100,000 miles.

Write today, at OUR EXPENSE, for details of our proposition on BONDED SHOES, as well as LASCO SUPER BLOX SETS and LASCO BACK BLOX.



LASCO SUPER BLOX for trucks, trailers and busses are available in both drilled and undrilled sets in 3 different types.

1. VICTORY, a high friction (.036) material for maximum stopping capacity.

2. MOUNTAIN MASTER, the super universal fine car and truck brake material of medium high (.030) friction.

3. LOGGER, a medium friction (.025) material for the ultimate in mileage and economy.

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LAHER INDUSTRIES



It takes all kinds of customers...



**...but they all want the best.
And when it's bearings,
*just tell 'em it's TIMKEN®!***



Keep customers coming back by using the best replacement parts. When you install a new tapered roller bearing, point out the trade-mark "Timken". Customers know it as a sure sign of quality and dependability. The Timken Roller Bear-

ing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable address: "TIMROSCO".

TIMKEN TAPERED ROLLER BEARINGS
TRADE-MARK REG. U. S. PAT. OFF.

NOT JUST A BALL ○ NOT JUST A ROLLER ○ THE TIMKEN TAPERED ROLLER ○ BEARING TAKES RADIAL ○ AND THRUST ○ LOADS OR ANY COMBINATION ○

Come One!.. Come All!.. Come In!.. See Our New

VAN NORMAN No. 253 CAMSHAFT GRINDER!

Swift's Shop Service Inc.

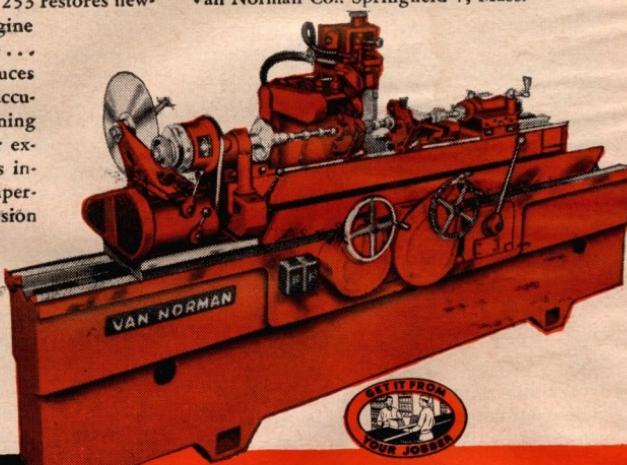


Here's how to Bring Business in . . .

Put yourself first in the field with this new service! You'll open up new markets . . . bring in new fleet customers . . . sell more parts and make more work for the other machines in your shop.

This new Van Norman No. 253 restores new-car power . . . smooths engine idling . . . reduces valve noise . . . extends engine life. It produces master cams quickly and accurately with new exclusive turning and grinding method. Other exclusive Van Norman features include: Positive control for taper-grinding cam lobes . . . precision

indexed head for positive cam location . . . Rap-O-Matic wheel retractor . . . positive semi-automatic size control. Get the complete profit-picture on these and other exclusive features of the new No. 253. See your jobber or write Van Norman Co., Springfield 7, Mass.



Section of camshaft shows wear on partially ground lobe . . . also properly ground, completely finished lobe . . . and old and new surface on main bearing.

The Best-Equipped Shop
Gets the Business!

that's why "It Pays to Van Normanize"

Motor Service

NEWS FLASHES

Monthly
Circulation
150,000

Chicago, Ill.

MORE NEWS ON PAGE 18 November 15, 1954

5 1/2 Million Prospects for New Cars

With almost all 1955 model cars now on sale, it is interesting to note the results of a survey taken by Crowell-Collier's on the number of people planning to buy a new car. There are 5,593,000 prospects for 1955 models and 53 per cent of them expect the prices to be lower than in 1954. The survey shows that the car buyer visits an average of 3.1 dealers in "shopping."

Of the people interviewed, 64 per cent did not want an increase in horse power.

Change To Be Made In Traffic Signs

The Bureau of Public Roads of the U. S. Dept. of Commerce reported that important changes in the design of traffic signs have been approved by the American Association of State Highway Officials, the Institute of Traffic Engineers and the National Committee on Uniform Traffic Laws and Ordinances.

1. A red stop sign, with white lettering and with at least the lettering reflectorized, replaces the former standard yellow sign. No contrasting panels or supplementary messages are permitted.

2. A "Yield Right of Way" sign is adopted for use at certain intersections where a full stop is not required. This is a yellow equilateral triangle, with one point downward.

3. "No Passing" and "End No-Passing Zone" signs are replaced by signs reading "Do Not Pass" and "Pass with Care," respectively.

4. The cardinal direction marker is to read "North," "South," etc., rather than "Northbound," etc.
5. The minimum mounting height to the bottom of signs in rural areas is increased to five feet.
6. Warning signs are to be placed further in advance of dangers ahead.
7. The border around a sign is now optional rather than mandatory.
8. Railroad crossing pavement markings are confined to the righthand portion of the pavement.
9. Traffic signal installations must show at least two signal faces visible to traffic on each approach to an intersection.
10. The minimum traffic "warrants" (vehicular volume) justifying traffic installations are raised in certain respects.

Chrysler Corp. Has New Cars and Optimism

When the Chrysler Corp. showed off their new cars to the press and radio men of the nation and to their own dealer organization, a spirit of optimism was felt throughout. The corporation's production during the first six months of 1954 went down to 45.8 per cent under 1953. This is a great loss to a firm listed as one of the top ten in the country.

An all out campaign has been loosed on the car buying public for Chrysler products. The new models, according to company officials, are completely new and modern. The corporation feels that they can and will regain that ground lost and then some during 1955.

TRIFLEX WIRE stays flexible at all temperatures



Silver Beauty

7 COLORS

RED
GREEN
BLACK
BLUE
YELLOW
WHITE
BROWN

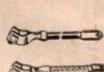
Get your wiring jobs done quicker and keep your customers happy longer with Triflex, the wire that's more flexible because it's built up from more than four times as many strands as other brands. Triflex is highly resistant to abrasion, and is impervious to gas, oils, and alkalis.

Triflex is built to withstand temperatures up to 250° above zero without getting mushy, and as low as 50° below zero without getting brittle. For superior insulating quality, greater strength, and longer life, specify Silver Beauty Triflex Wire.

cables and straps **FLOWELD** assembled for highest conductivity



Terminal, cable, and lug are joined in patented *Floweld* assembly to form a single line of brass and copper . . . a solid conductor from end to end. Only Silver Beauty cables are exclusive all-weather Tripene for greatest flexibility.



TRIPLE A SPECIALTY COMPANY • CHICAGO 12, ILL.

"This extra airline saves me extra steps!"

says: **Walter B. Jackson**
Jackson's Service Station,
Norwalk, Conn.



"The coupler at both ends of the hose makes it easy to use all my air service tools!"



"Since we put in extra airlines, fitted with a Schrader quick-acting coupler on both ends of the hose, we've cut down on the steps in servicing. For instance, now with a quick twist, we can change from a Schrader #1020A Chuck Gauge to a Schrader #8159B Dual Foot Chuck, or to a Schrader #7184 Blowgun... or even an extension airline to reach any car we're working on. It's as handy and time-saving as extra electrical outlets. I wouldn't be without it."

This is but one way dealers who set up for Schrader Certified Air Service are saving time. Extra airlines help you give extra service—that can be turned into extra sales of all the products and services you sell. Schrader Certified Air Service Manual A-200 gives you successfully-used ideas for increasing TBA business. Write for your copy, today. And order quality Schrader Products from your supplier.



Schrader

REG. U. S. PAT. OFF.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
470 Vanderbilt Avenue, Brooklyn 38, N. Y.

FIRST NAME IN TIRE VALVES
FOR ORIGINAL EQUIPMENT AND REPLACEMENT



In 1906

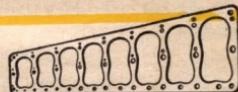
A one-cylinder Cadillac sold for \$750 . . .
and the first
FITZGERALD GASKETS
were made

FITZGERALD GASKETS today are engineered to provide the extra strength and ruggedness required for a lasting, perfect seal in modern high compression engines.

Since 1906 "FITZGERALD" has stood for top quality materials and workmanship, combined to make truly dependable gaskets — for every engine, gasoline or diesel.

**THE FITZGERALD
MANUFACTURING CO.**
TORRINGTON, CONNECTICUT

CANADIAN FITZGERALD LTD. — TORONTO, CANADA
BRANCH AND WAREHOUSE — LOS ANGELES, CALIF.; CHICAGO, ILL.



Also . . .

GREASE RETAINERS • CORK GASKETS

FITZ-RITE TREATED FIBRE GASKETS

FOR OIL, GASOLINE

AND WATER CONNECTIONS

COMPLETE SETS FOR MOTOR REBUILDERS



Motor Service

NEWS FLASHES

Latest Trade News for
the Service Shopmen

MORE NEWS ON PAGE 14

Death of Mason Starts Talk of Further Merger

With the death of American Motors Corp. President George W. Mason, speculation has begun on a further merger of AMC and another of the manufacturers, namely Studebaker-Packard. His successor, George Rommey, when asked about the possibility said, "There are no discussions. We have not commissioned any group or banking organization to work that out. . . . No one representing us is arranging a blind date. There's a difference between a blind date and a marriage. We've had no dates as far as we're concerned. I don't say that we haven't taken a look at the economic facts of a merger with that company, as well as others."

So there it stands.

AC's Vacuum Pump On Other Cars

The rotary vacuum pump developed by AC Spark Plug and used for the first time on the 1954 Cadillac, has been adopted by other car manufacturers for their 1955 lines.

According to Martin J. Caserio, AC chief engineer, the rotary vacuum pump will develop up to twice the operating force of diaphragm-type booster pumps. He says the new pump has a high static vacuum that moves the wiper blades under practically all road conditions and engine loads.

Thunderbirds Go To Dealers

At press time, the usual reliable source informs us that Ford dealers throughout the country are showing a few Thunderbird personal cars in their showrooms. Pro-

duction has begun and orders may be taken. No formal introduction except along with new standard models is planned by the company.

Most Popular Tire Size

According to the B. F. Goodrich Company, the tire size that has been most popular for many years—6.00 x 16—is not now the most popular. Less than 20 per cent of the industry's replacement business now consists of the 6.00 x 16, today's most popular size being 6.70 x 15.

Rumor Dept.

Although nothing definite has come out by press time, the rumors still persist that Cadillac has a super-duper model in the 1955 line. It is said to be on a par with Rolls Royce and sell for around \$10,000 plus tax, etc.

All AMC Line Can Have Air Conditioning

The American Motors Corp. is making its "All Season" air conditioning system available as optional equipment on all 1955 Hudson and Nash cars. The factory installed system combines refrigerating, heating and ventilating into one integrated unit.

American Motors Service Plans

Service divisions of Hudson and Nash are being consolidated with all technical information to be compiled at an office set up by American Motors Corp., in Milwaukee.



BRAKE SERVICE

"I tried to stop, Officer! My brakes just wouldn't hold." Reminders like this in Grey-Rock national advertising help prevent actual mishaps — direct motorists to you for brake inspection every 5,000 miles and reline jobs as needed.



Reduce adjustments and comebacks, get higher profits, with Grey-Rock *Balanced Linings*. Grey-Rock uses many different linings in combination, for each make, model; not just high and low friction linings. This exclusive balance principle gives fast, safe stops; equal lining wear.

Distinctive woven and molded linings are combined in Grey-Rock Braksets, Trucksets, for severe brake requirements. Where used, they give better action than molded linings alone. Special molded types are used where all-molded combinations give best results. An exclusive Grey-Rock feature!

See your Grey-Rock jobber for
**FACTORY-BONDED
SHOE EXCHANGE**

It's the lining that counts
Every piece branded for
your protection

•
Consistently advertised in

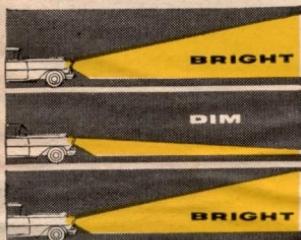
POST and **Country Gentleman**

**Only Grey-Rock makes
BALANCED BRAKSET LININGS**

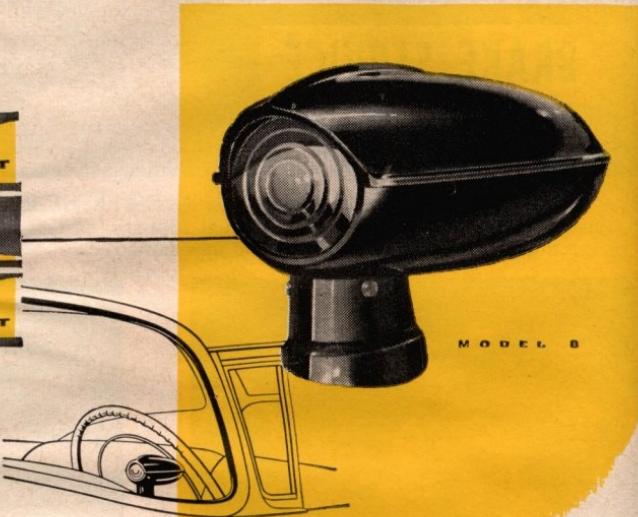
GREY-ROCK DIVISION of Raybestos-Manhattan, Inc., MANHEIM, PA.
RAYBESTOS-MANHATTAN, INC., Brake Linings • Brake Blocks • Clutch Facings • Fan Belts • Radiator Hose Industrial Rubber, Engineered Plastic, and Sintered Metal Products • Rubber Covered Equipment • Asbestos Textiles Packings • Abrasive and Diamond Wheels • Bowling Balls



ANOTHER GENERAL MOTORS CONTRIBUTION TO SAFER NIGHT DRIVING!



Automatically
AT NIGHT



MODEL B

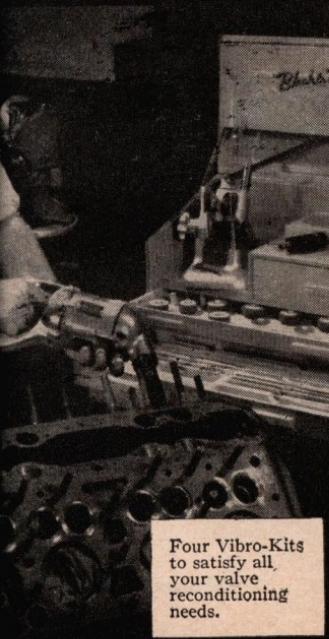
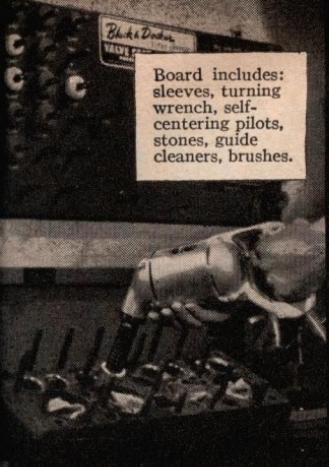
AUTRONIC-EYE®

AUTOMATIC HEADLIGHT CONTROL

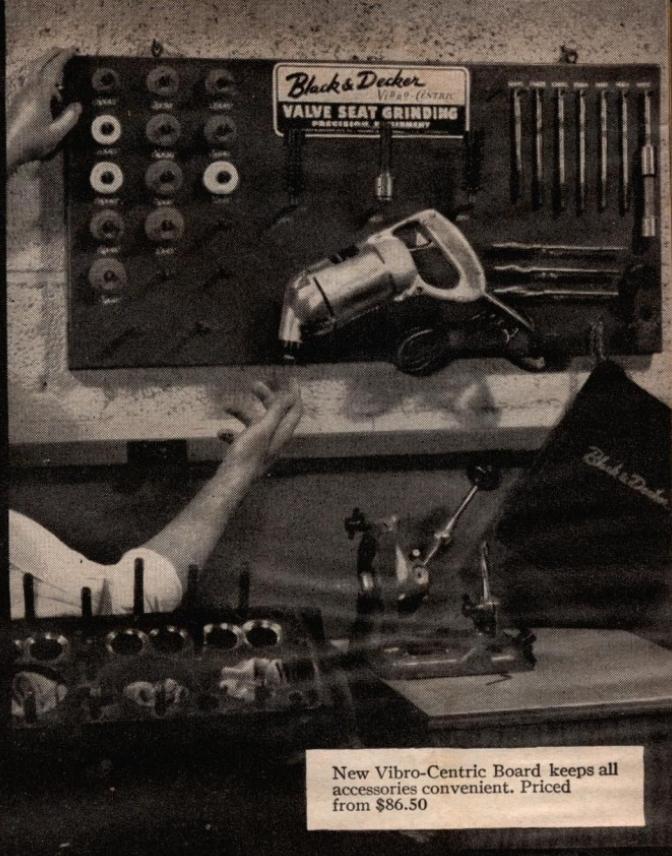
Now General Motors ushers in the "Autronic Age" of night driving safety—with the first completely automatic headlight control! On the highway after dark, the amazing new Autronic-Eye *automatically* dims your lights when an oncoming car approaches. Keeps them dim until all traffic passes. Brings them back to bright—*automatically!* See this latest electronic safety device in action. Ask your Cadillac or Oldsmobile dealer for an Autronic-Eye demonstration real soon!

® Trademark Registered U.S. Pat. Off.

GUIDE LAMP DIVISION • GENERAL MOTORS CORPORATION • ANDERSON, INDIANA



Four Vibro-Kits to satisfy all your valve reconditioning needs.



New, Complete Family of B&D Vibro-Centric* Tools, Accessories!

New Black & Decker Vibro-Centric Board makes it easy to take the tools to the job . . . and do the job fast. Available, equipped in three ways: Complete with Vibro-Centric Driver, Standard or Heavy-Duty Dressing Stand, or without these items.

New Vibro-Kits tool Kits with improved selection of pilots and stones permit easier storage of Driver, Dressing Stand. Sturdy oak kit boxes protect precision equipment. Four varieties of kits, accessories.

These new outfits do letter-perfect jobs. See B&D distributor for demonstrations. Write for details: THE BLACK & DECKER MFG. CO., Dept. 3311, Towson 4, Md.

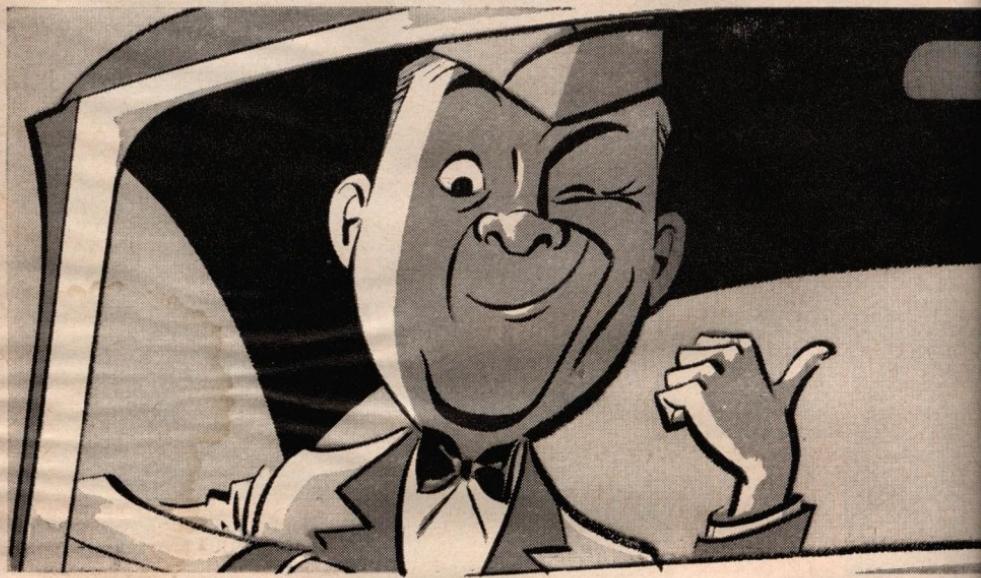
For nearest distributor, see "Tools-Electric."

LEADING DISTRIBUTORS EVERYWHERE SELL

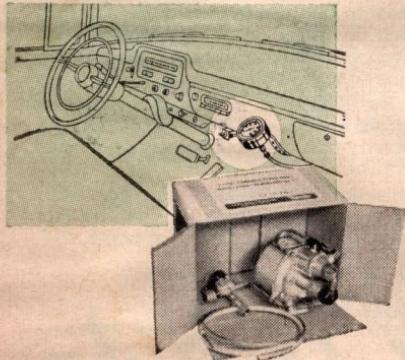
Black & Decker
PORTABLE ELECTRIC TOOLS

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the powerful, convincing,
BENDIX POWER BRAKES



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Now demonstrate Bendix Power Brakes with just the flick of a switch! This special kit for your *own* car comes complete including all installation parts *plus* a manual "on-off" demonstration switch and valve.

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POWER BRAKES!



profit-packed way to sell
FOR PASSENGER CARS!

Now is the time to get into the power brake business. The market is ready-made! The demand is heavy! The profit-picture is one of the most liberal you'll find! And here's the best part of it . . .

With the Bendix* Power Brake, you can get into this fast-moving business right away and get your share of sales in short order. Installation is quick and easy. There are only three simple connections to make and anyone around your shop can make them.

Contact your local Bendix Power Brake distributor. Or write direct to factory Service Sales Department.

*REG. U.S. PAT. OFF.

**Bendix
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BENDIX PRODUCTS DIVISION SOUTH BEND, IND.

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Gracious
sakes
man



IT'S GOTTA BE

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is right.
There's no substitute
for quality."

It pays to shout and pound your fists for Dura-Bond quality bearings and sleeves. Hair-line precision makes for top-flight performance, and for the easiest installation ever known. In every respect, they outperform all others by a margin as wide as the wide Missouri. Go get 'em today.



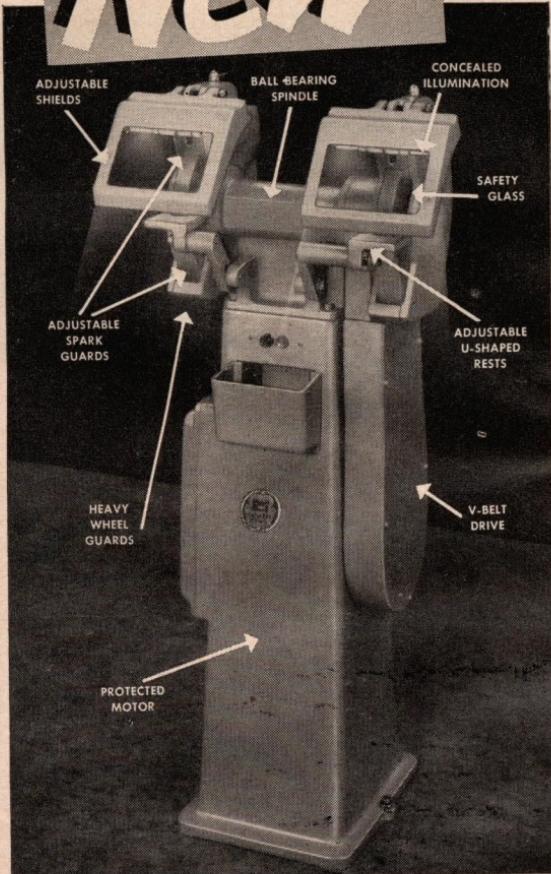
DURA-BOND
ENGINE PARTS COMPANY

715 LOMA VERDE AVENUE
PALO ALTO, CALIFORNIA

WAREHOUSE STOCKS COAST TO COAST

New

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A ruggedly built grinder that will give long, dependable service under hard use. Ideal for rough or precision grinding. The motor is enclosed in the pedestal and drives through a V-belt. This removes the weight of the grinding wheels from the motor bearings and practically eliminates vibration. Moreover, it isolates the motor from abrasive dust, providing more work clearance. 8"-\$245; 10"-\$248. Less motor and remote control equipment. Time payment terms 10% down—balance in 12 months. Prices f.o.b. factory.



Wheel Size: 8" dia. ($\frac{1}{2}$ h.p. motor), 10" dia. ($\frac{3}{4}$ h.p. motor).

Spindle: Approx. speed 2450 r.p.m. Sealed ball bearings.

Motor: Standard 2875 r.p.m. 50 cycle or 3450 r.p.m. 60 cycle. Also D.C.

Over-all Dimensions: 49 $\frac{1}{2}$ " high, 18" wide, 20 $\frac{1}{2}$ " deep (10" Grinder $\frac{1}{2}$ " wider).

S P E C I F I C A T I O N S

Compared with our costs
OUR PRICES ARE LOWER
than they were back in 1941



Prices are closely tied to costs. Costs are still rising. Buy now before increased costs necessitate higher prices.

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Shop Kinks...

CARS—TRUCKS—TRACTORS

Defroster "Pep-'Er-Upper"

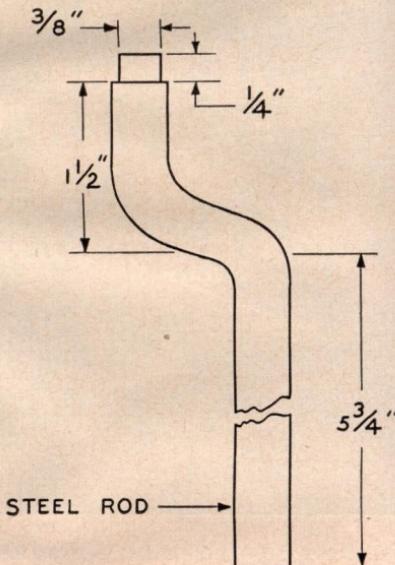
ON LATE model Dodges we have had a few complaints about the defrosters on the driver's side of the car not working properly. To remedy this situation I remove the garnish moulding from the dash and insert one four inch piece of $\frac{1}{8}$ in. hose over the defroster tube on the passenger side at the point where the air comes out strongest. This will cause a resistance, forcing more air out the driver's side. Incidentally, the hose from the drain petcock serves this purpose admirably. *Louis Biancucci, Hoxsie, R.I.*

Pontiac Oil Pan Removal

I HAVE devised a tool which enables me to remove the oil pan from Pontiac Eight engines without lowering the tie rod or removing the sector arm.

The tool is made up to the dimensions shown in the illustration and two of these tools are inserted under the front end plate support after re-

moving the front insulators. Small ends of the tools are placed in the two bolt holes in the lower edge of the



front plate support and the other ends rest in the recess on the front of the front cross member. These tools are left in place until the oil pan is replaced. *Pedigo Repair Shop, Nampa, Idaho.*

(Continued on page 106)

MOTOR SERVICE
will pay \$15

Send us your quicker or easier way to do that job on automobiles, trucks or tractors. If it is acceptable and has not been sent to, or used by another publication, we will pay you \$15.00 cash.



BOOST FALL BUSINESS WITH -

NEW MOPAR ANTIFREEZE

TODAY'S MOST COMPLETE WINTER PROTECTION

New MoPar All-Weather Antifreeze, made with special Chrysler Corporation formula, provides these additional customer benefits:

1. Prevents decay of cooling system rubber parts.
2. Guards against rust which causes radiator clogging, pinhole leaks.
3. Minimizes "gum" deposits which can cause engine overheating.
4. Protects against corrosion of cooling system metals.

**Offers permanent protection against cold
—without rust, corrosion, "gumming"!**

New MoPar Antifreeze offers extra benefits that mean added sales appeal—added customer satisfaction. First, it provides 100% protection against freeze-ups—and will not boil off, foam off, or evaporate. Second, it helps preserve top engine performance because it helps protect the cooling system against rust, corrosion, rubber decay, and "gum" deposits. Third, it costs no more than ordinary permanent-type antifreeze.

Make the most of this good profit opportunity by offering these benefits to your customers. You can get new MoPar Antifreeze from any Chrysler Corporation dealer or MoPar parts wholesaler.

MOPAR

**PARTS DIVISION
CHRYSLER CORPORATION**

As advertised in the POST

The new shop favorite...

HEIN-WERNER "G.G." 4-TON HYDRAULIC SERVICE JACK

The GG Jack is a multi-purpose marvel that handles anything in the shop, from a small passenger car right up to a medium heavy truck. It's easy to maneuver . . . simple to operate . . . instantly responsive to slightest stroke of handle. Lifting from 4" to 24".

And look at these other wanted features that the Hein-Werner GG offers:

- Long powerful chassis
- Structural steel side members
- Ball-bearing casters
- Easy-to-spot white swivel saddle
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- Rapid automatic speed pump
- Pivoting unit

SEE YOUR H-W JOBBER OR WRITE US



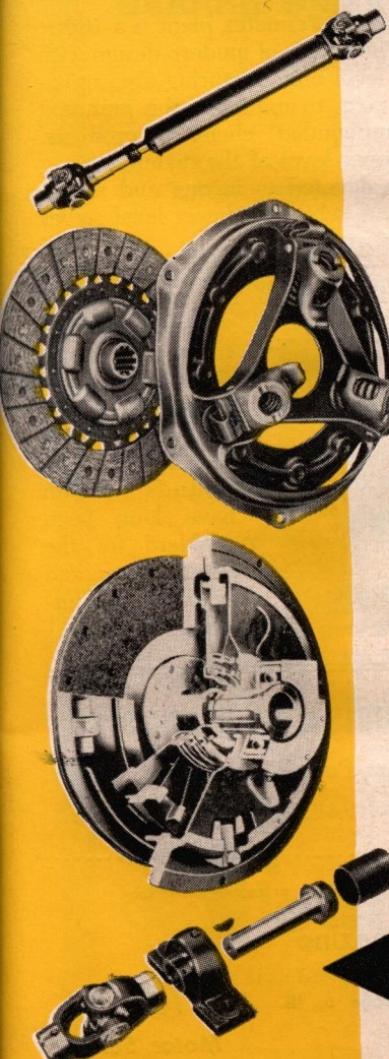
HEIN-WERNER MANUFACTURES AND SELLS MORE
HYDRAULIC JACKS THAN ANY OTHER COMPANY IN
THE WORLD TODAY!

Hein-Werner
HYDRAULIC JACKS

HEIN-WERNER CORPORATION
WAUKESHA, WISCONSIN

The complete Hein-Werner line of Hydraulic Jacks includes: Under-Axle Jacks of 1½ to 100 tons capacity . . . "Bumper-Lift" Jacks for passenger cars . . . "Swift-Lift" and Service Jacks for shop use . . . Adjustable Car Stands . . . "Push and Pull" and "Pushmaster" Jacks for body, fender, and frame repair work.

Only SPICER Offers You Such a Wide Range of **QUALITY SERVICE PRODUCTS!**



Only from Spicer do you get such a complete range of quality service products for the power transmission field —

Spicer Universal Joints and Propeller Shafts

Spicer Power Take-Offs and P.T.O. Joints

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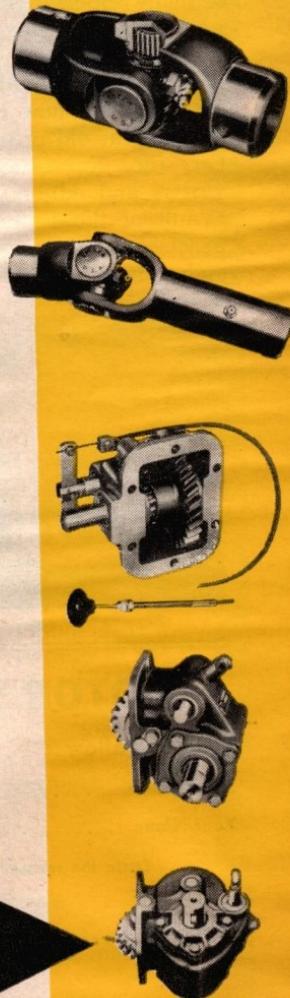
And only from Spicer do you get the benefit of such wide experience and long prestige in automotive power transmission.

Stock Spicer!

DANA CORPORATION

Toledo 1, Ohio

50 YEARS OF
Spicer
SERVICE



Forecast Is for PEACE and PROGRESS

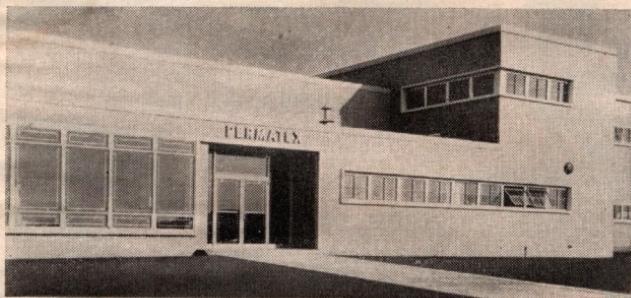
AS THE major step in its \$750,000 1954 expansion program, the Permatex Co., producers of sealing compounds and maintenance chemicals for transportation and other industries, formally opened its new \$500,000 plant in the Fairfax industrial area in Kansas City, Kan.

In connection with the formal dedication of the new chemical plant by the 31 year old president of Permatex Co., Inc., forecasts of top industrial writers and editors were sealed in a "Vault of the Future." Ten years of peace and unprecedented scientific and economic progress lie ahead for

America. The forecasts also predict a 36 hour work week by 1964, solution of the cancer riddle and automotive manufacturing on a "Big Four" basis.

The new Permatex plant is a 160 x 180 ft. structure of modern design with a two level manufacturing area utilizing gravity to minimize the pumping of compounded chemical products. The upper level of the manufacturing area is devoted to mixing and manufacturing, while the lower level serves for packaging.

The new Kansas City plant facilities will be used for the expanded volume manufacturing of major products such as hydraulic brake fluid and patented sealing compounds which have long been standard for the automotive and aviation industries.



MOTOR SERVICE Transmission Manuals

Buick Dynaflow	50¢	Chevrolet Powerglide	50¢
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Your Name		City	State

Circle the manual you want and mail this coupon with a check or money order to:

Motor Service Magazine

Manual Dept.

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THE REPAIRMAN'S BEARING HANDBOOK

**"Check Generators!
It Often Means
Bearing Sales,"**

Says Carl White, Owner
White's Garage & Service Station
Marion, Ark.



"I am located in a small rural town and do a lot of automotive generator work. In my locale, generators take a pretty severe beating and frequently trouble is caused by a bad bearing."

"Generator bearings often fail to get lubrication periodically. This is due to neglect, but I have found that generator bearing life can be prolonged under all adverse conditions by installing Federal 1203RR Double-Sealed Ball Bearings with 'locked-in' lubrication."

"Perhaps some other automotive repair shops would like to know about this idea."

Mr. White gives extra-good service!—He gives his customers the bearing noted for longer life and smoother operation—Federal 1203RR with double-neoprene seals.

Mr. White gets extra-good service!—Because he's backed by an extra-good source of supply—his NAPA Jobber. NAPA Jobbers carry the most complete line of ball bearings in the field—Federal Ball Bearings. These are the bearings that leading truck and car manufacturers choose as *original equipment on millions of vehicles*. You'll do right by your customers—and yourself—when you use Federals.

THE FEDERAL BEARINGS CO., INC., POUGHKEEPSIE, N. Y.



Federal Ball Bearings

The Most Complete Ball Bearing Line for the Automotive Industry

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comfort — stability

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easy to install
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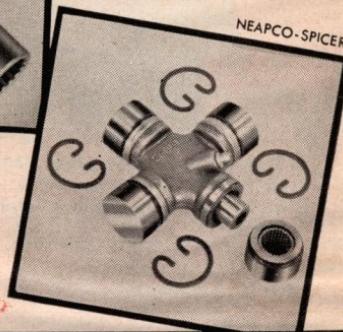
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switch to these patented products!



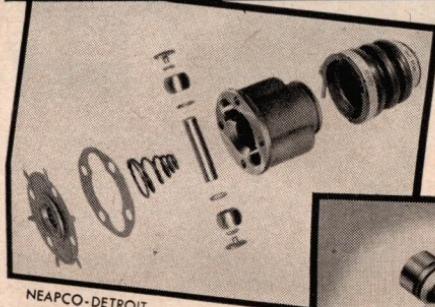
NEAPCO-TORQUE
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FOR FORD,
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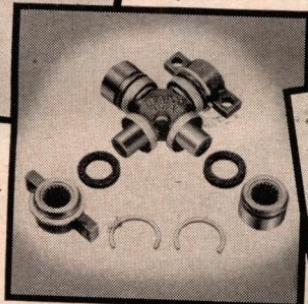
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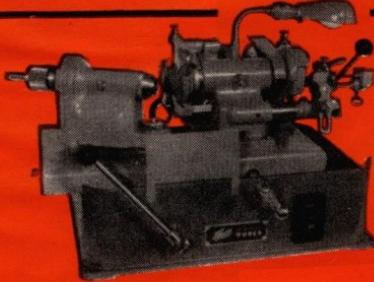
You can service ALL your calls because Neapco is readily available in ALL types for ALL models. Besides, you're sure of Top Quality, and competitive prices . . . plus Neapco's famous unequivocal guarantee. Specify Neapco always—be completely sure.



Neapco Products Inc.
Pottstown, Pa.



Thor Valve Shop Equipment



Two sizes of wet-type VALVE REFACTERS, $\frac{1}{4}$ " to $1\frac{1}{16}$ " stem capacities, available with or without butt-grinding wheel and attachment.



VALVE SEAT GRINDERS available in three sizes for wheels up to 4" in diameter. Plain and roller bearing wheel-holders.

Cash in on Profitable Valve Servicing Jobs!

There's plenty of profit in renewing engine valves and seats when you're equipped with easy-operating, fool-proof Thor-built machines.

Your Thor Jobber can help you choose equipment tailored to your own needs from selection of eight fitted valve shops, a score of fitted seat-grinding kits, dozens of pilots and hundreds of wheels. Write for Valve Seat Grinding Guide No. 8379, Thor Power Tool Company, Aurora, Ill.

HERE'S WHY

Thor

Valve Shop Equipment EARNS EXTRA PROFITS

1. Thor equipment offers built-in accuracy and stability. No need to be an expert machinist to turn out first class work, right the first time.



2. Valve Refacers are equipped with "quick-acting" controls for fast chucking, traversing, and rocker arm grinding.

3. Convenient diamond wheel-dressing fixtures make it easy to keep wheels in first class shape for smooth, accurate grinding.

4. Heavy Duty Seat Grinders are equipped with 55° spindle for free access to back valve seats, V-type engines.

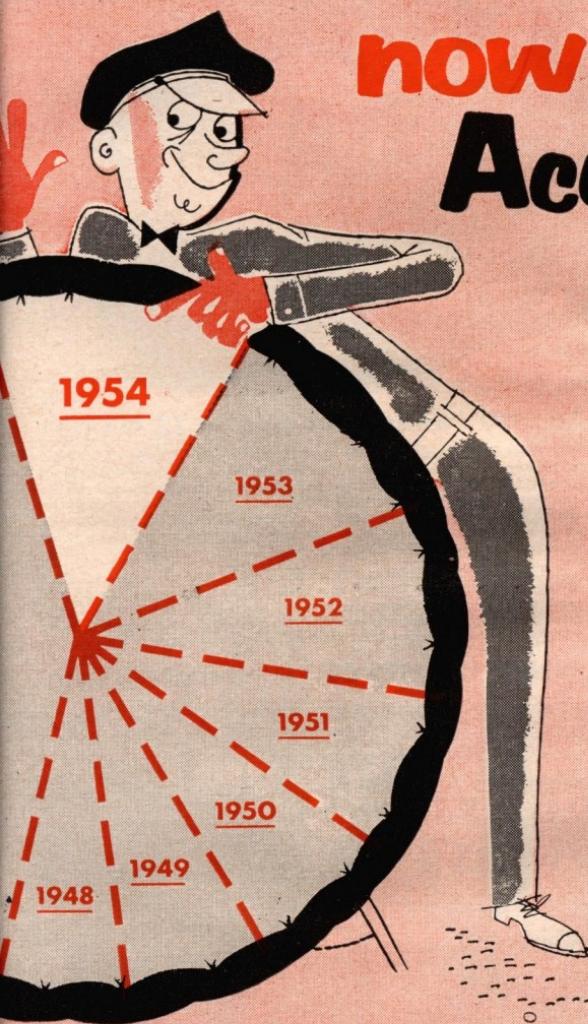
5. Thor accessories are readily available for servicing ALL types of engines with standard Thor equipment.

Thor
AIR AND ELECTRIC
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THE COMPLETE LINE OF POWER TOOLS

PUROLATOR...

now TOP Accessory!



Latest figures show oil filters increasing their lead in the accessory field . . . with Purolator well out front in filter production and sales!

Answer is: Dealers work with Purolator . . . Purolator works with dealers!

1. Purolator, first in filter experience, helps dealers sell—actually “gets in there and pitches.”
2. Purolator, leader in filter advertising and merchandising backs dealers with year-round selling programs.
3. Purolator, originator of the oil filter, backs dealers with a product that out-performs all others, brings customers back.

Result: Dealers tell men, “Push Purolator Micronic* Oil Filters—best by every test—easiest to sell—biggest money-maker” . . . Men say, “Okay”—sell more and more Purolators.

Remember: Purolator builds oil sales, too . . . Every Purolator* sold, sells an extra quart of oil to take the place of the dirty oil thrown out with the dirty filter—helps round out sales picture. *Reg. U. S. Pat. Off.

PurOlator

World's finest **OIL FILTER**

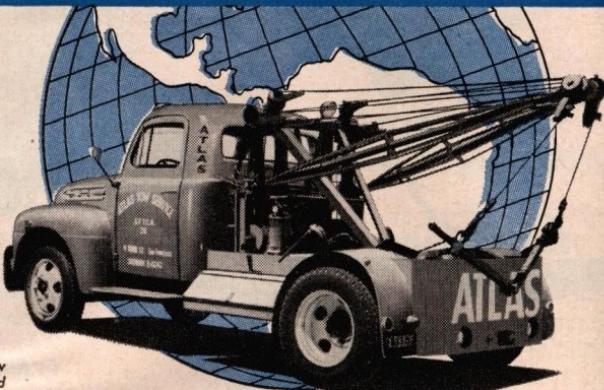
PUROLATOR PRODUCTS, INC., Rahway, New Jersey and Toronto, Ontario, Canada



ATLAS Picks-up WORLD of WRECKS with Fleet of 12 HOLMES UNITS



Walter Cahill, proprietor, Atlas Tow Service, San Francisco, Calif., started his Company in 1920 with 2 tow trucks. Since then, he has built up his equipment and business until today he operates a modern fleet of 12 HOLMES WRECKER units handling more than 36,000 calls per year. Atlas' fleet includes 2 Heavy Duty models for large trucks and tractors, 10 medium size wreckers for passenger cars and a light pick-up truck for utility work. All mobile equipment is radio-dispatched and is an intricate part of a short wave radio system that handles National Automobile Club emergency service in San Francisco.



36,000 "Calls" Handled in 12 Months

There is no ancient myth about the fact that Atlas Tow Service is today picking up a world of wrecks in the San Francisco area. This firm, with a fleet of 12 HOLMES WRECKER units, has, over a 12 month period, answered calls for emergency road service a total of 36,000 times . . . an average of over 3,000 per month or approximately 100 wrecker calls every 24 hours. The development of such a successful business shows what one good operator can, and is doing with modern HOLMES WRECKERS.

There are many throughout the nation who are profitably using a fleet of Holmes Wrecker units. The fact that experienced operators who know road requirements best, use Holmes Wreckers exclusively, shows how Holmes Equipment is regarded by those who are handling the bulk of today's road calls. See your jobber or write factory direct for details on the new Holmes models.

ERNEST HOLMES CO., Chattanooga, Tenn.





Nov. 15,
1954

—an independent INTERNATIONAL technical monthly publication, devoted exclusively to the repair and maintenance of passenger cars, buses, trucks, tractors, marine engines, motorcycles, etc.

FOUNDED 1921
by Ambrose Bowyer

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Car Life Span Increasing



William K. Toboldt

DATA released by the Automotive Manufacturers Association points out clearly the increase in motor vehicle life which results directly from improved materials and design.

In 1925 these figures show that an automobile was only 6½ years old and had traveled only 25,750 miles when it was scrapped. Currently, cars are driven 125,000 miles and are 14.3 years old when they reach the junk yard.

Obviously the greater life span that is being built into the automotive vehicle has a direct effect on the repair business. But in that connection, it is important to remember that while the life of the vehicle was being slightly more than doubled, the number of vehicles on the road has nearly tripled.

It is also interesting to note that back in 1925, when the life of a car was 25,750 miles, it generally received one major engine overhaul before it reached the junk yard. Today, with car life extended to 125,000 miles, it will still receive a major engine overhaul before it is scrapped.

With the increased vehicle registrations that means a large volume of engine repairs.

Bill Toboldt

Editor



'55 CHEVROLET 8

Fig. 1. Fourteen solid color options and twenty one two-tone color options are offered for 1955.

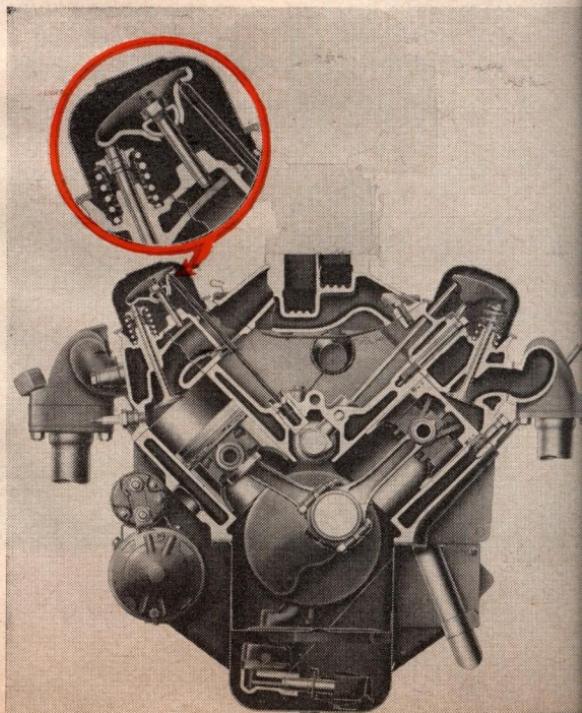
CHEVROLET told us "There is Something NEW under the Sun." That is definitely an understatement because there are several "Somethings" that are new in the 1955 models.

- A. A powerful new V-8 engine.
- B. Completely new bodies and frames.
- C. Improved suspension systems.
- D. Optional transmission overdrives.
- E. Hotchkiss type of drive.
- F. Improved transmissions.
- G. New air conditioning (cooling and heating).
- H. Plus 12 volt electrical systems, tubeless tires, more rubber mountings, fewer lubrication points, plus a host of detail improvements from bumper to bumper.

Fig. 1 shows the body lines but does not indicate the reduced height or the wide range of colors available.

Fig. 2. This cross section shows the new valve rockers which are self-aligning, having no rocker shaft. Not shown is the chain driven cam-shaft.

Fig. 2 shows the details of engine construction used in the eight, but it is necessary to drive the car in order to appreciate fully the power available to the driver. Rated at 162 hp., power can be boosted to 180 hp. by the in-



Chevrolet Service Specifications

	Six	Eight
Engine, Bore and Stroke	$3\frac{9}{16} \times 3\frac{15}{16}$	$3\frac{3}{4} \times 3$
Compression Ratio	7.5 to 1	8.0 to 1
Piston Rings	3	3
Intake & Exhaust Tappet Clearance	.006-.013 hot*	.008-.016 hot*
Oil Pump Pressure	35 at 1200 r.p.m.	35 at 1200 r.p.m.
Engine Refill Capacity	5 qts.	4 qts.
Camber	0 to 1 deg.	0 to 1 deg.
Caster	$-\frac{1}{2}$ to $+\frac{1}{2}$ deg.	$-\frac{1}{2}$ to $+\frac{1}{2}$ deg.
Toe-in	$\frac{1}{8}$ - $\frac{3}{16}$ in.	$\frac{1}{8}$ - $\frac{3}{16}$ in.
Spark Plugs	.033-.038 gap	.033-.038 gap
Distributor Breaker Gap	.016-.021	.016-.021
Cooling System Capacity	17 qts.	17 qts.

* If not hydraulic type.

and Two SIXES

stallation of an optional "power package" consisting of a four barrel carburetor, a revised air cleaner and a dual exhaust system.

Manufacturing processes complement the compact design to assure unusually fine balance of working parts. Not only is the crankshaft balanced on a newly developed machine with electronically controlled indicators, but a final balance is achieved after as-

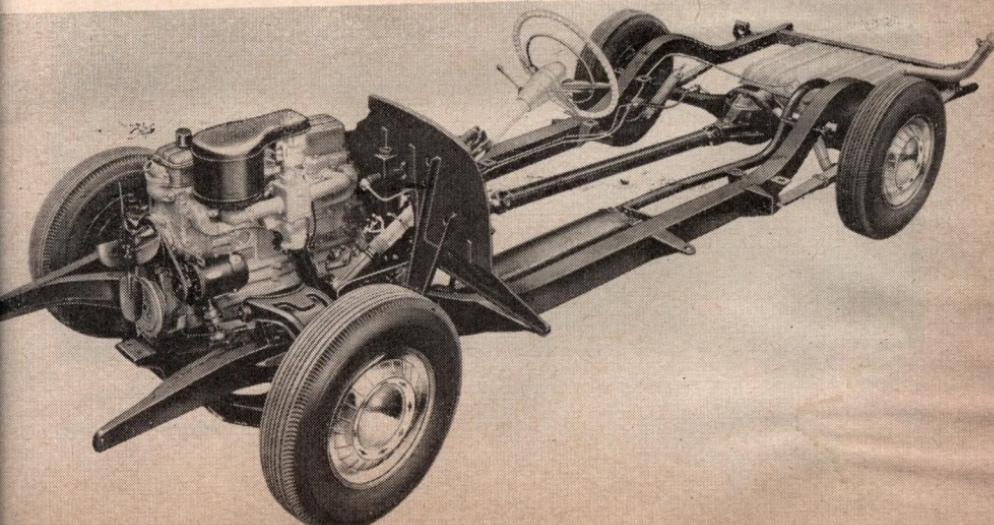
sembly. The last balance test takes place before installation of the oil pan.

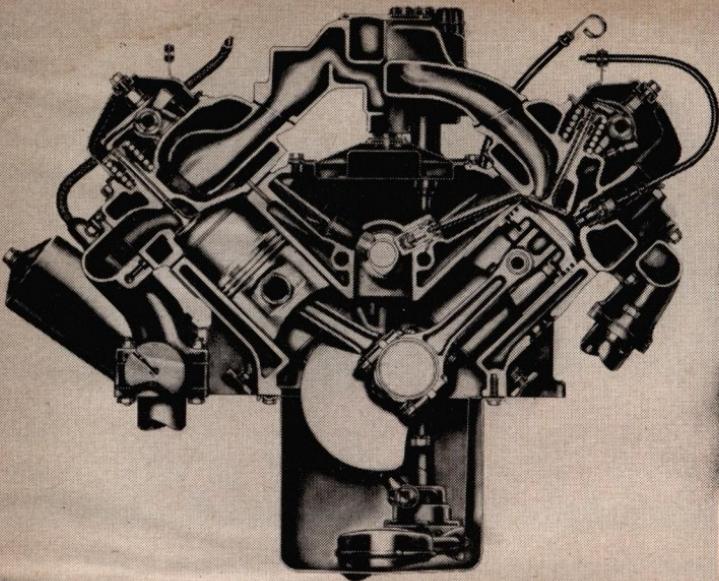
The six cylinder engine has been improved and is rated at 123 hp. with a three-speed transmission and 136 hp. on Powerglide models. The lowered hoods required a redesign of the air cleaner as shown in Fig. 3, which also shows many more chassis changes.

Added efficiency and quietness have

(Continued on page 102)

Fig. 3. Frames are said to be 50 per cent more resistant to twisting although 18 per cent lighter than 1954.





1955

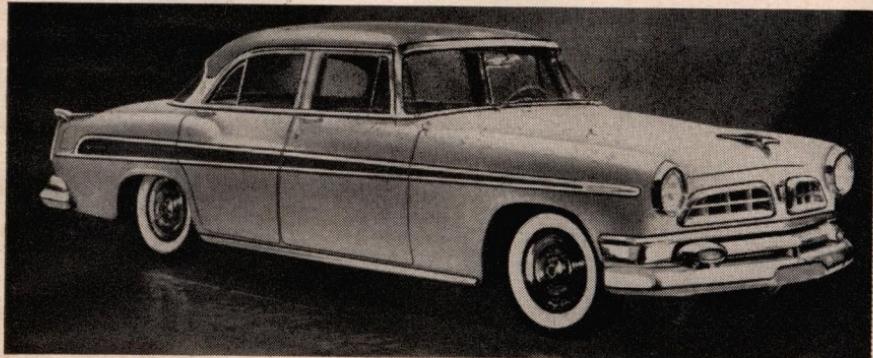
No. 1. Chrysler Windsor Spitfire V-8 engine for 1955.

CHRYSLER built automobiles for 1955 are NEW. New engines, bodies, suspension systems, controls, colors, upholstery and even tires. Longer, lower, better handling and with increased power.

Of paramount interest to our readers are the engines, specifications and output of which were not available at press time. This information will be published as soon as it is released. The

Chrysler New Yorker and Imperial, De Soto and Dodge Custom Royal all use the V-8 engine with the hemispherical combustion chamber.

A modified design of this engine which has a revised valve arrangement and action and an altered combustion chamber is used in the Chrysler Windsor, the Dodge Royal and Coronet and Plymouth. As used on the Chrysler Windsor and known as the Spitfire, this



No. 2. A 250 h.p. FirePower V-8 engine is under the hood of the '55 Chrysler New Yorker DeLuxe.

Chrysler Line is NEW

engine is shown in illustration No. 1.

The De Soto engines are known as Firedome with a four barrel carburetor and Fireflite with the dual-throat carburetor. The Plymouth version of the engine is known as the Hy-Fire.

Six cylinder in-line engines are also available in the Plymouth and Dodge lines.

It will be noted from illustration No. 1, that the modified engine uses a single rocker arm for the valve action and that the spark plugs are on the outside of the valve cover. The clean exterior of the engine and service availability of engine units is shown in the

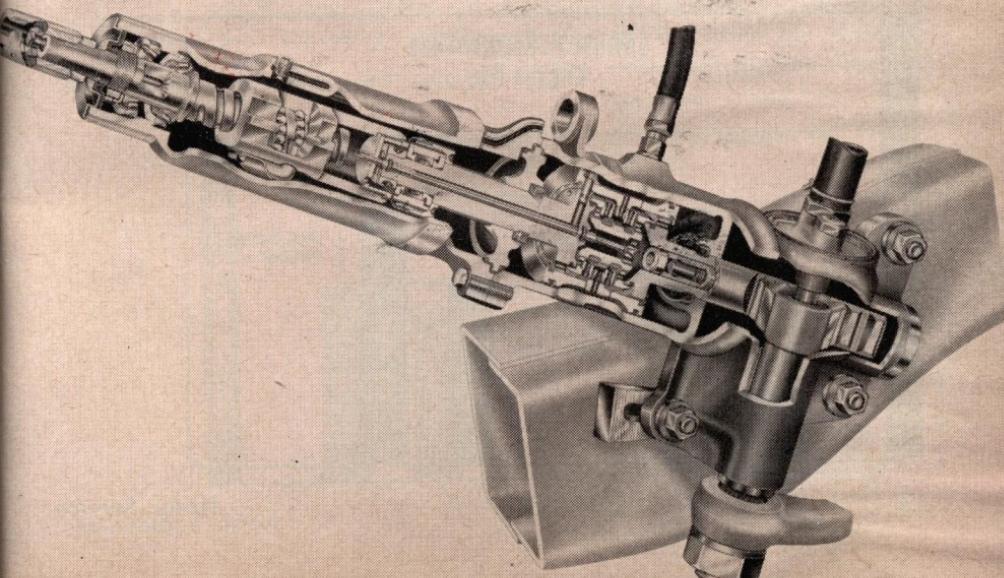
external view of the Plymouth engine. See illustration No. 4.

It is of particular interest to us that spark plugs, distributor, generator, carburetor, water pump, valves, etc. are readily accessible for service with the engines mounted in the chassis of any model.

Frame and suspension design changes allow the cars to be lowered considerably; in one case, more than 2½ inches. Rear springs are now wider and mounted farther apart and the shock absorber rear mounting relocated. Front shock absorbers are in-

(Continued on page 116)

No. 3. Power steering of the integral type is now available on all models.



ENGINES Like Automatic

EARLIER this year, MOTOR SERVICE Magazine published results of a test made on off-the-road vehicles equipped with automatic transmissions. These tests indicated an increase in engine life of 47 per cent which was directly attributable to the automatic transmissions.

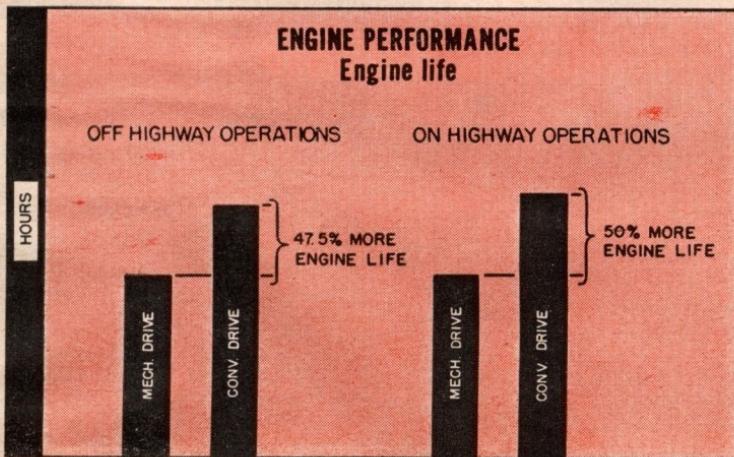
A later report was presented to The Society of Automotive Engineers at a meeting in August of this year at Los Angeles. This report, by Mr. R. M. Schaefer, Allison Division, General Motors Corporation, dealt with on-highway trucks of all sizes. This report is even more favorable than the earlier results. See Fig. 1.

In addition to an increase of 50 per cent in engine life, a definite and important increase in miles per gallon is evident. Thus the additional cost

of automatic transmissions for revenue vehicles of all types is justified in dollars and cents. See Fig. 2.

With an increase in both engine life and fuel economy, it would appear that the automatic transmission will pay for itself quickly and then continue to produce returns on the investment. All this in addition to the other advantages obtained from their use such as:

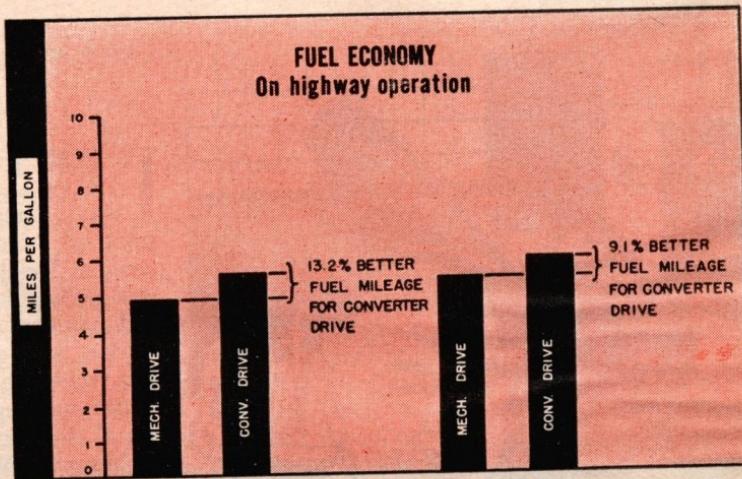
- A. Multiplies torque hydraulically.
- B. Holds the load to the power source at all times.
- C. Applies power to the load smoothly and firmly.
- D. Fits the power to the source.
- E. Protects against shock-load damage to engine and equipment.
- F. Prevents engine from lagging or stalling.
- G. Increases life of engine and equipment.
- H. Adjusts variation between engines in multiple installations.



Transmissions

By Jud Purvis, technical editor

Fig. 2



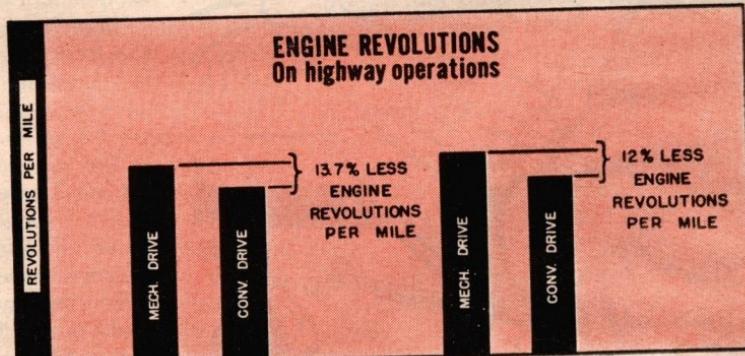
- I. Eliminates gearshift guess.
- J. Makes possible greater payloads, greater variations in torque output, and higher power factor.
- K. Quick-shift under full load at wide open throttle without interruption of power flow from engine to load.
- L. Provides finger-tip hydraulic gear-shift control on both single and multiple installations.
- M. Eliminates double-clutch pedal pumping and gear clash grind.

- N. Increases service availability of equipment
- O. Reduces operator fatigue and promotes safety.

It is not at all difficult to understand how the smooth and gradual application of the load will decrease torsional vibration of the engine crankshaft and thus make life easier for engine crankshaft, engine bearings,

(Continued on page 121)

Fig. 3



Mac Speeds



"WHAT'S IT SEEM TO BE,
FUEL OR IGNITION?"

IT WAS a mighty tired-looking Lincoln Zephyr that ground to a stop in front of Mac MacDonald's garage. The house trailer it was pulling looked as worn and pounded as the car.

Mac, sitting in the office and watching the car and trailer pull up, noticed the out of state licenses and said to himself, "Now what!"

Claire had gone out for coffee for the boys, Spike was on a service call and had Jimmy with him, and Willie was out in back washing a customer's car.

With great effort, Mac heaved his bulk out of the swivel chair he had reared back in and went towards the door out onto the street.

"Man," said an elderly man from the driver's side of the Lincoln, "this day it didn't pay to crank this job up!"

"You got some real troubles, eh?" asked Mac.

"Yepl!" was the reply, "fellow up at the gas station sent me down to see you about it."

"You mean you don't think she'd run another lap?" asked Mac, suddenly grinning.

Pit Stop

By Bob Sullivan



"Mac" MacDonald

"I'd never'd made it back to the pits," the oldster replied.

"You're Jack Barnes, aren't you," asked Mac.

"That's me," the old fellow said proudly.

"I was clingin' on the rail the day you busted all records at the old fair grounds back in '14," said Mac. "I'm mighty glad to meet you!"

"Boy we had a romp that day," said old Jack. "That Lozier was hot. It beat the best goin'."

"I guess you don't remember helping a nosy boy away from your car with the tip of your shoe just after the race, then," laughed Mac.

"Was that you?" asked Jack.

"One and the same," replied Mac. "Those were the days when I was tryin' to get a job in the pits. I wanted to be a riding mechanic."

"Well, I'll be," Jack began. "I never did see a boy that could climb in and over a car so fast. I was afraid you'd bust somethin'."

"Just curiosity of youth," replied Mac. "The only way I recognized you was that long scar on your cheek and those dark eyes. I didn't think it could be anyone else!"

"Yep," said Jack, "that's been a good many years ago. I'm out to pasture now. Got a little farm down in Indiana, and I travel around in the fall of the year just to keep on the move

like old times."

"What's the matter with the Lincoln here?" said Mac.

"Could be ignition, or could be fuel system," said Jack thoughtfully.

"That's a more intelligent guess than I normally hear around here," laughed Mac.

"Well," said Jack, "I'm runnin' along about 50 or 55 and she started cuttin' out on me. I dogged along with it that way and finally, it began cuttin' out down at 45 miles per. I thought maybe haulin' this trailer, she got a vapor lock. Then again, it felt like ignition. I jest don't know."

"If we could unhook that trailer and bring it in the shop, Jack, I'll give it a going over."

"Well, I'll tell you what," said Jack, "I see by my turnip here that it's gettin' on towards noon. I'll mosey uptown and get a bite to eat and drop back. You kin tell me the news then."

"OK," said Mac. "Maybe I can talk you into stayin' over. I'd like to hear all about your racing if you've got the time."

"Time?" asked Jack. "Son that's one thing that I guess I got more of than anybody I know. We'll talk about that later!"

Mac drove the Lincoln into the shop and over by the test bench. He was closely followed by Spike and Jimmy

(Continued on page 124)

POWERFLITE

Transmission Service

Part I By Jud Purvis, technical editor

FOUR elements are used in Chrysler PowerFlite torque converter: an impeller, or pump, a turbine and two stators. See Fig. 1. This converter is supplemented by two planetary gear units hydraulically controlled by two bands and a multiple disc clutch.

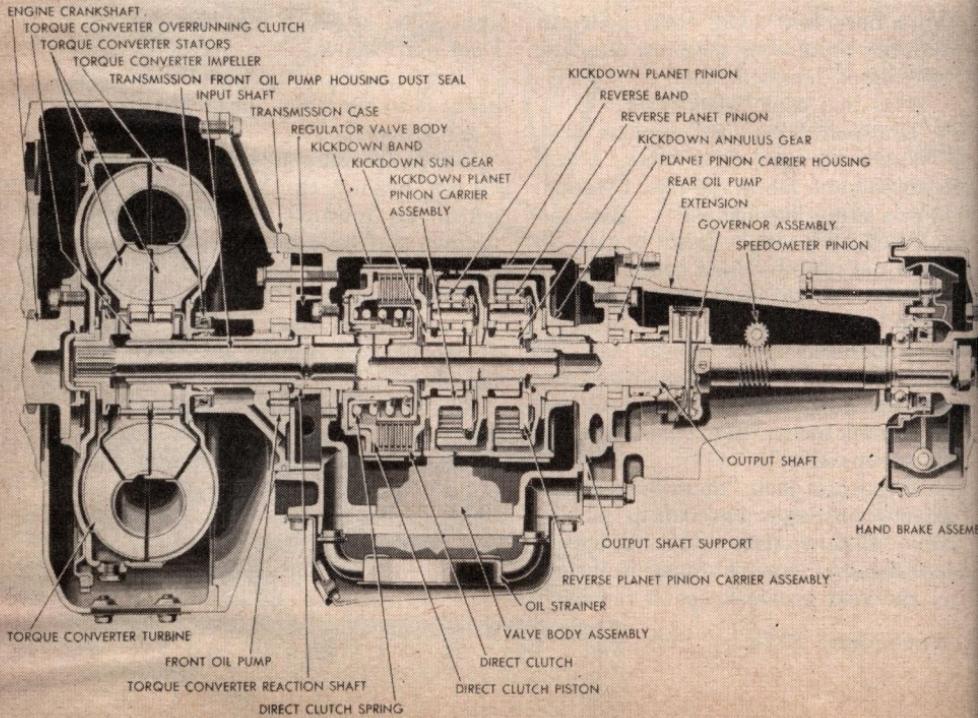
This arrangement provides a low, reverse, and driving range along with a neutral position. No parking sprag or gear is used as a parking brake is

located on the drive shaft at the rear of the transmission.

The PowerFlite is made in two sizes: the large size for Chrysler and DeSoto, the small for Dodge and Plymouth. The large size is water cooled, the small size air cooled.

With the control in the drive range position, the car starts out with a gear reduction and automatically shifts into direct drive as the car speed in-

Fig. 1. The principal components of the transmission in addition to the torque converter are two planetary gear units, one multiple disc clutch, two bands, two pumps, nine control valves, and a governor.



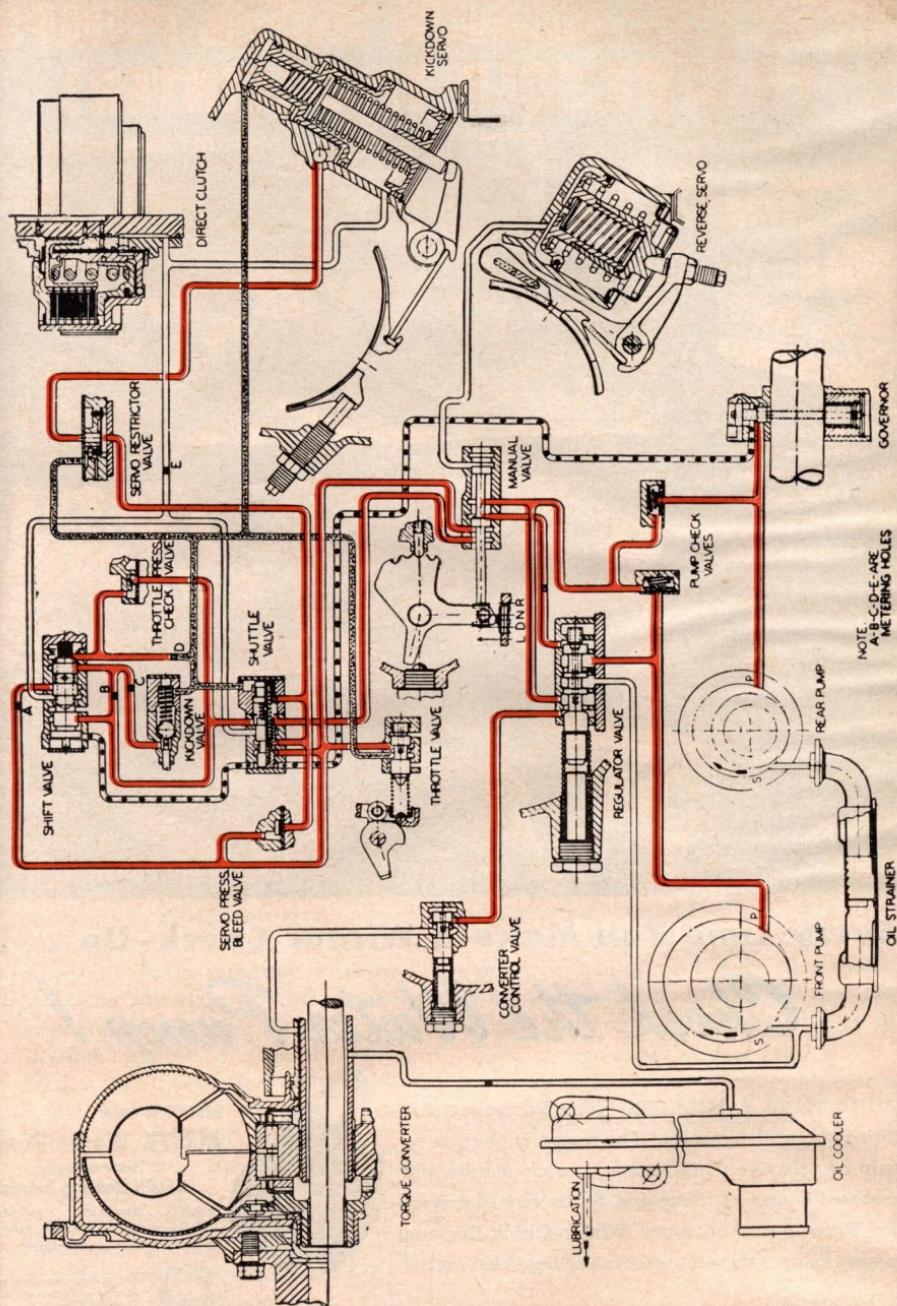


Fig. 2. Red shows the line pressure of 90 lbs., as controlled by the throttle pressure—15 to 90 lbs.—shaded lines, and governor pressure of 0 to 90 lbs. in black dots.

(Continued on page 122)

OVER ONE MILLION WATER PUMPS WILL BE SOLD THIS WINTER!



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your AIRTEX Jobber —
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Every Time You Make a Winter Check-Up . . .

Check the Water Pump!

MORE THAN A MILLION Water Pumps are sold during the winter months! The reason is obvious—a worn or defective pump means poor circulation and increased danger of freeze-ups. So be sure to inspect the Water Pump on every Winter Check-Up, and convert many of them into profitable "big-ticket" sales!



Install a new
AIRTEX Water Pump
with exclusive

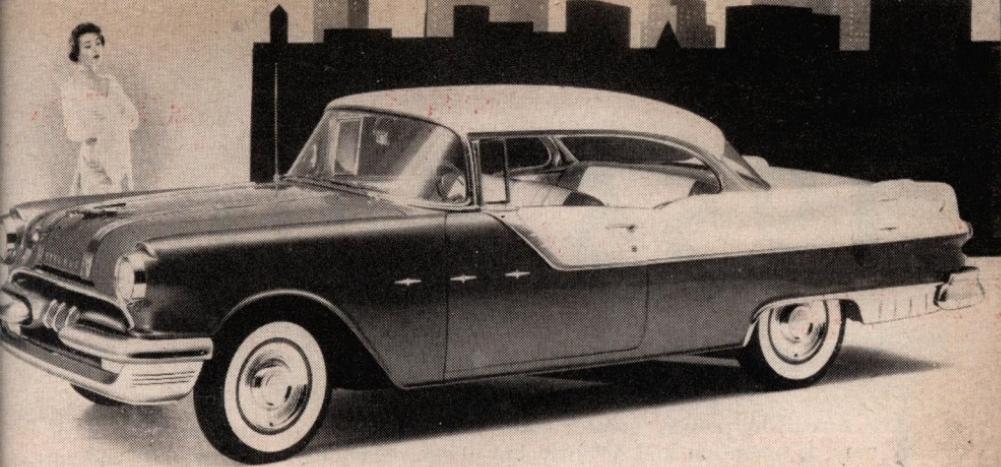
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AIRTEX AUTOMOTIVE DIVISION
FAIRFIELD, ILLINOIS



The complete restyling of the 1955 Pontiac line is evident in this Star Chief Custom Catalina.

NEW V-8 For '55 Pontiac

WITH a total of 109 new features, the 1955 Pontiac models are entirely new. Both series, the Chieftain with 122 in. wheelbase and the Star Chief with 124 in. wheelbase, use the new V-8 180 hp. engine.

The engine is of the large bore, short stroke design using a ball pivot valve rocker arm and hydraulic lifters. The individually mounted valve rocker arms are self-aligning and require no adjustment. Another feature of the Pontiac engine is the reverse-flow gusher valve cooling system which feeds water directly from the radiator to the cylinder head, the hottest part of the engine, and from there to the cylinder block, or coolest portion, thus increasing cooling efficiency and decreasing chances of cylinder wall distortion.

The right hand bank of

cylinders is set slightly forward of the left bank. This arrangement permits location of the distributor slightly right of center at the rear of the engine so that force of the camshaft drive gear on the distributor is upward. As a consequence, distributor installation is simplified and better timing and service is expected. The fuel pump is located on the left side of the engine in direct line with the fan blast, thus reducing the possibility of

(Continued on page 128)

1955 Pontiac Service Specifications

Engine, Bore and Stroke	8— $3\frac{3}{4} \times 3\frac{1}{4}$
Compression Ratio	8 to 1
Piston Rings	2 comp., 1 oil
Intake & Exhaust Tappet Clearance	Hydraulic
Oil Pump Pressure	35 above 40 m.p.h.
Engine Refill Capacity	5 qts.
Camber	$\frac{1}{2}$ deg. pos.
Caster	1 deg. neg.
Toe-in	Zero
Spark Plugs	.035 gap
Distributor Breaker Gap	.016 in.
Cooling System Capacity	26 qts.

1955 BUICK

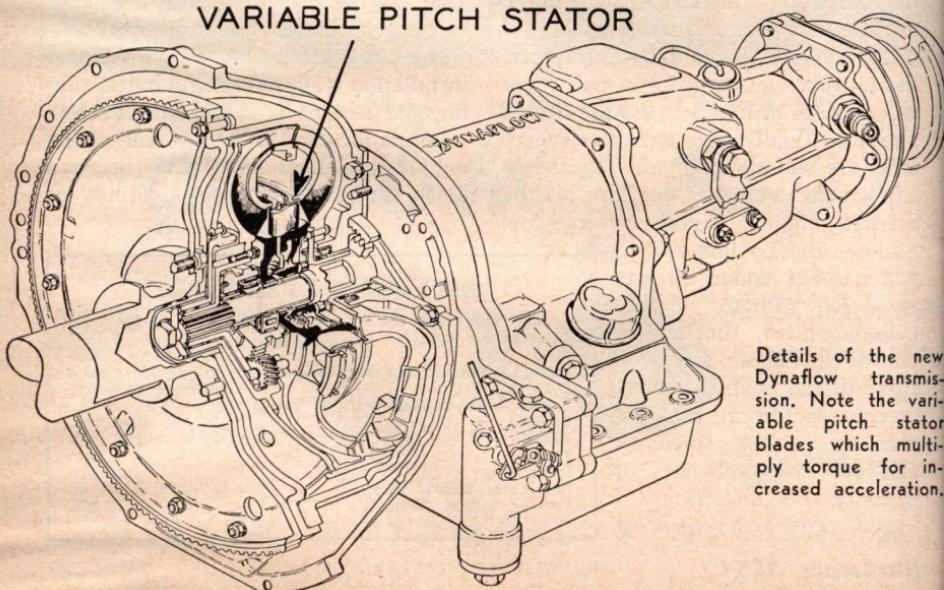
INCREASED power, greater economy of operation and a vastly improved Dynaflow transmission feature the mechanical improvements on the 1955 Buick. While bore and stroke on both engines remains the same, power on the 322 cu. in. engine is now 236 hp. @ 4600 r.p.m. On the 264 cu. in. engine used in the Special series, output has been raised from 143 @ 4200 to 188 @ 4800. The same 322 cu. in. engine is used on the Super, Century and Roadmaster. Last year, variations in carburetion provided different output for each of those series. The new chassis

includes many improvements in design, resulting in longer life and improved economy. Prices of the new models remain basically the same.

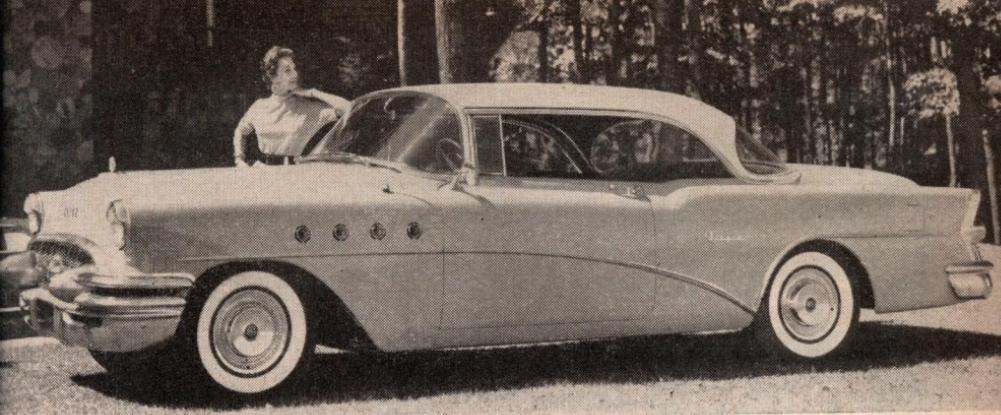
The new Dynaflow is of major significance. The major feature is the incorporation of a stator assembly with variable pitch stator blades which provide the equivalent of a passing gear (with no gear change) whenever the accelerator is pressed to the floor boards.

Each of the 20 blades of the stator assembly is mounted on an individual crank pin, which is actuated by the stator piston. Oil pressure to one or

VARIABLE PITCH STATOR



Details of the new Dynaflow transmission. Note the variable pitch stator blades which multiply torque for increased acceleration.



The new Super Buick for 1955

both sides of the piston moves the blades to either low or high angle positions. The low angle is used for cruising while the high angle gives increased torque multiplication and consequently improved acceleration.

The position of the stator blade angle depends on throttle position. Throttle linkage from the engine actu-

ates a valve located in the high accumulator body. For all throttle openings, high clutch oil pressure is routed through the control valve, to the front side of the stator piston. As this pressure is greater than converter charging pressure, the piston will move to the rear of the stator unit and the

(Continued on page 130)

1955 Buick Tune-Up Data

	Series 40	Series 60	Series 50	Series 70
Bore and Stroke	3.625×3.20	4.00×3.20	4.00×3.20	4.00×3.20
Displacement	264.0	322.0	322.0	322.0
Std. Comp. Ratio	8.4	9.0	9.0	9.0
Brake Horsepower	188 @ 4800	236 @ 4600	236 @ 4600	236 @ 4600
Taxable HP.	42.05	51.2	51.2	51.2
Crankcase Capacity	6 qt.	6 qt.	6 qt.	6 qt.
Valve Lifters	hydro.	hydro.	hydro.	hydro.
Intake Valve Opens	25 BTC	25 BTC	25 BTC	28 BTC
Ex. Valve Closes	42 ATC	42 ATC	42 ATC	42 ATC
Valve Lift	.358	.378	.378	.378
Cooling System Cap.	18 qt.	18 qt.	18 qt.	20 qt.
Spark Plug	AC 44-5	AC 44-5	AC 44-5	AC 44-5
Plug Gap	.030-.035	.030-.035	.030-.035	.030-.035
Breaker Gap	.015	.015	.015	.015
Points Open	5 BTC	5 BTC	5 BTC	5 BTC
Caster	- $\frac{1}{8}$	- $\frac{1}{8}$	- $\frac{1}{8}$	- $\frac{1}{8}$
Camber	+ $\frac{1}{8}$	+ $\frac{1}{8}$	+ $\frac{1}{8}$	+ $\frac{1}{8}$
Toe-in	1/32	1/32	1/32	1/32



**K-D
TOOLS**

to service valves in all **Ford-built Motors**

THE CORRECT K-D TOOL COMBINATIONS

For removing and replacing valves in all Ford-built motors

MODELS	TO REMOVE	TO REPLACE	MISCELLANEOUS
4 CYLINDER			
1928-32	307 Lifter 502 Driver 920 Set	307 Lifter 925 Replacer	511 Bushing
1939-48 Tractor & Truck	920 Set	245 Lifter or 925 Replacer	930 Compressor 1118 Bushing
1948-52 Tractor*	380 Compressor	380 Compressor	930 Compressor 1120 Bushing
OHV Tractor			
6 CYLINDER			
1941-47	920 Set with 923 Adaptor 700 Lifter	925 Replacer	930 Compressor 1118 Bushing
1948-52 L-Head	380 Compressor	700 Lifter 608 Inserter	609 Inserter for free type valves
OHV since 1953		380 Compressor	
V-8 CYLINDER			
1932-33	245 Lifter 818 Driver 920 Set	245 Lifter	1118 Bushing
Lincoln Zephyr	920 Set	925 Replacer	930 Compressor 1118 Bushing
1934-47 (incl. Mercury) except 60 h.p.	260 Lifter 860 Set 920 Set	245 Lifter or 925 Replacer	930 Compressor 1118 Bushing
1937-40 60 h.p.	930 Compressor	260 Lifter	930 Compressor 1160 Bushing
1948-53 Ford & Mercury*	935 Compressor	245 Lifter or 925 Replacer	930 Compressor 1120 Bushing
1948-51— 145 h.p. Truck & Lincoln*	380 Compressor	935 Compressor	609 Inserter for free type valves
OHV—All	930 Compressor	930 Compressor 608 Inserter	
*1948 & LATER Optional service individual valves without removing guides		380 Compressor	609 Inserter for free type valves



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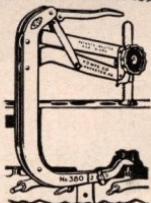
K-D MFG CO., LANCASTER, PA.



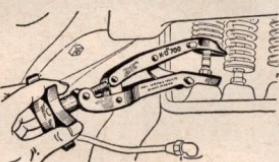
Yes Sir!
K-D TOOLS
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THE K-D TOOLS YOU NEED FOR FORDS

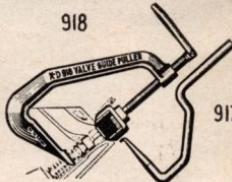
Each one is specially designed to make the job easy



380 Compressor



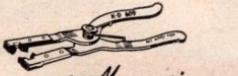
700 Valve Spring Lifter



920 Valve Guide Puller Set



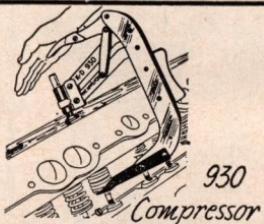
608 Valve Keeper Inserter



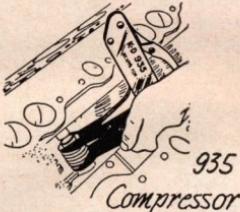
609 Valve Keeper Inserter



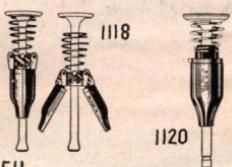
923 Adaptor for 920 Set



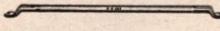
930
Compressor



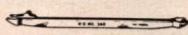
935
Compressor



511 1118 1120
Valve Grinding Bushings



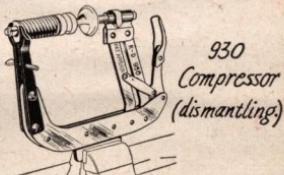
245 Bar Lifter



260 Bar Lifter



925 Valve Guide
Replacing
Tool



930
Compressor
(dismantling)



307 Valve Spring Lifter

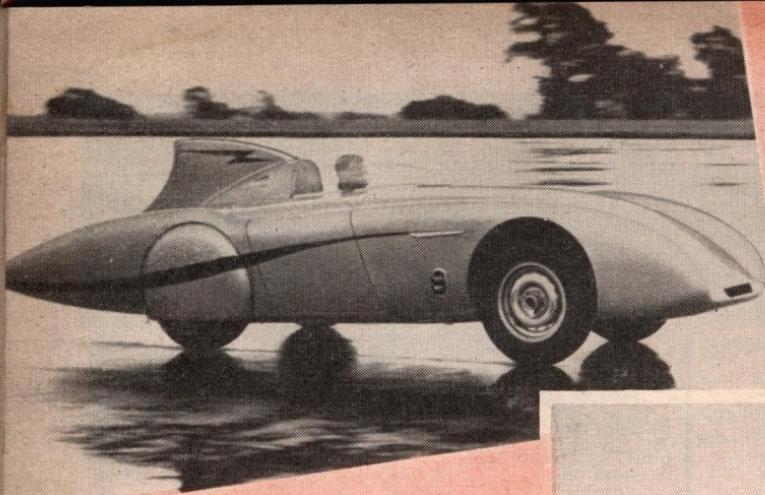


862 Valve Guide Puller Set



502 and 818
Valve Guide Drivers

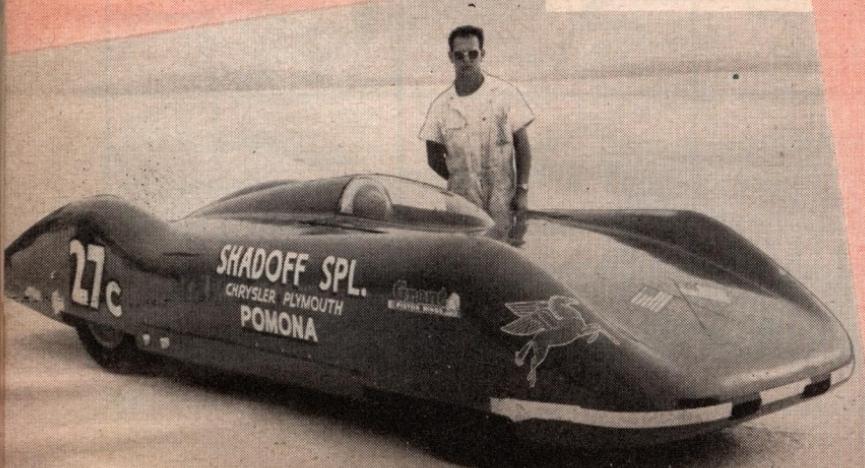
GOT 'EM ALL IN YOUR TOOLBOX? SEE YOUR JOBBER.



Donald Healey, designer and manufacturer of the Austin-Healey 100 is at the wheel of the specially fitted class record breaker which traveled one mile at 192.6 m.p.h.

Shades of Buck Rogers—George Sablier of France is still alive and enthusiastic over his invention. It is said to weigh 60 lbs. and the 6 h.p. engine is capable of flying about 30 m.p.h. for 10 hours.

A modified Chrysler V-8 powered the Shadoff Special and Bob Bowen over the Bonneville course at a Class C record of 248.26 m.p.h. The engine turns up 6,000 r.p.m. with a compression ratio 14:1. It weighs 1,800 lbs. and is 39 in. high and 56 in. wide.



What looks like a whispered bit of advice is really a kiss for Russell Sheldon of Milwaukee. The reason for the osculation is Sheldon's winning the contest for tractor-with-tandem-axle-semi-trailer at the National Championship Truck Rodeo.



With the combination of a French bikini made from Scotch plaid and a Mexican sombrero, Jean Benson tries to please everyone. And without any cause for hesitation it would seem that she accomplishes her aim.



This car may not have everything else, but it has a variation on the kitchen sink. Thirsty passengers in a German Volkswagen can easily prepare a cup of tea with this simple accessory.

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PAINT and BODY SERVICE



REFINISHING INSTRUMENT PANELS



PAINT and BODY DEPARTMENT

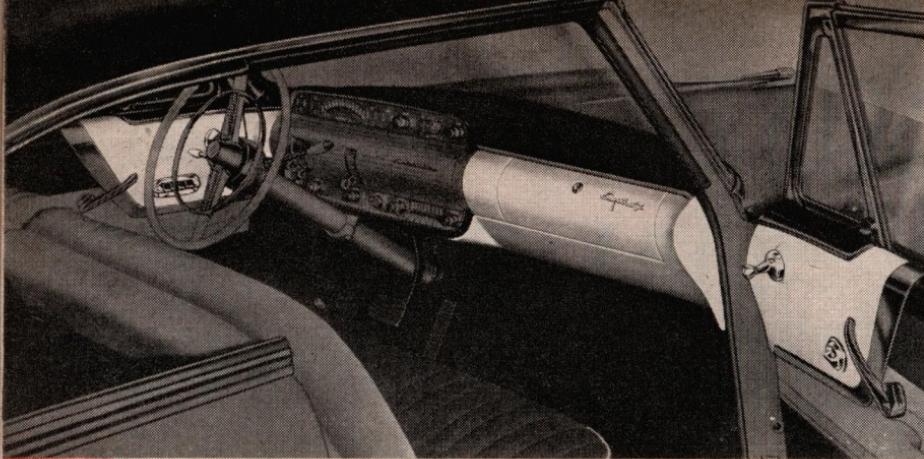


Fig. 1. Showing location of gray and gold finish transfer on Lincoln Capri instrument panel and door garnish molding.

PAINt and BODY DEPARTMENT

THE SURFACE of the instrument panel on the 1954 Lincoln Capri is covered by a nitro-cellulose transfer. When damaged, this gray and gold star finish, Fig. 1, is easily repaired with a new transfer which resembles the familiar decalcomania.

If the damaged area is on the door of the glove compartment, ash tray, or front window garnish moldings, the factory advises removal of the damaged area before attempting a repair. Other portions of the instrument panel not easily removed are repaired in the car. In each case the entire area should be covered with a new transfer and patching a small area should not be attempted as a satisfactory job of patching cannot be done.

When the damaged area is at either end of the instrument panel, the transfer

should be applied from the nearest end of the instrument panel to the end of the damaged area including a 45 deg. tapering off area toward the bottom-center of the instrument panel as shown in Fig. 2.

Before attempting to recover the

Fig. 3. Scratched garnish molding.



surface with a new transfer, it is important that the panel and the room temperature be 75 deg. Wrinkling and uneven application of the transfer will result if the temperature is below that value.

The procedure advised by the factory is as follows:

Assuming that the transfer on the front door garnish molding has been damaged, first remove the molding from the door and then sand the damaged area with number 320 grit wet sandpaper to remove the scratch

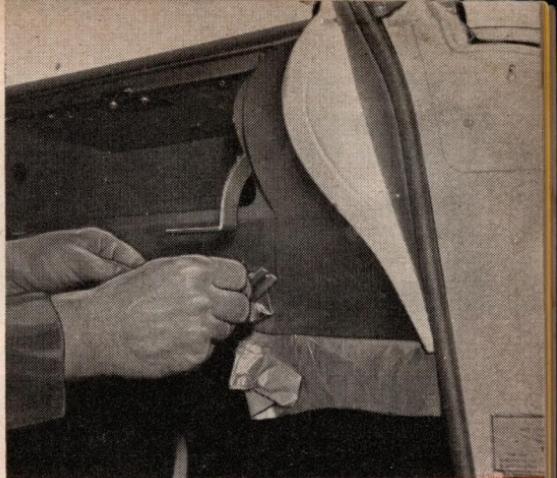


Fig. 2. Trimming transfer at 45 deg. angle.

PANELS

By Bill Toboldt, editor

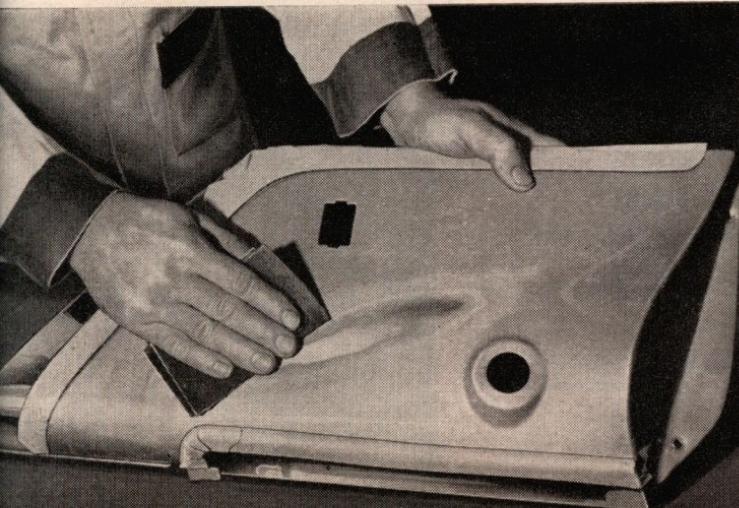
from the metal. The edges of the feathered area should be carefully feathered. In order to avoid scratching the chrome areas, these should be covered with masking tape as in Fig. 4. After sanding, the area should be washed with a sponge and water.

Make a template from plain paper to fit the area to be covered and then cut the transfer to conform to the template, making it 1 in. oversize.

Immerse the transfer in lukewarm water for three minutes. Also prepare

(Continued on next page)

Fig. 4. Sanding scratched surface.



REFINISHING INSTRUMENT PANELS

(Continued from preceding page)

the adhesive material mixing one part water soluble solution to four parts water. This solution is then sponged on the surface to which the transfer is to be applied.

Immediately place the wet transfer on the area with the paper side out and carefully remove the paper, Fig. 5.

Then using a sponge dipped in warm water, sponge out from the center of the area to the edge to remove any air bubbles or wrinkles, Fig. 6. If difficulty is encountered in removing any wrinkles, lift the transfer from the edge to the wrinkle and squeeze again to a smooth surface. Extremely small air bubbles can be removed by piercing with a pin or with a razor blade. Then follow through with a rubber squeegee, Fig. 7. When using the squeegee, use plain water as a lubricant. The squeegee can be used

(Continued on page 64)

Fig. 5. Aligning wet transfer and removing backing paper.

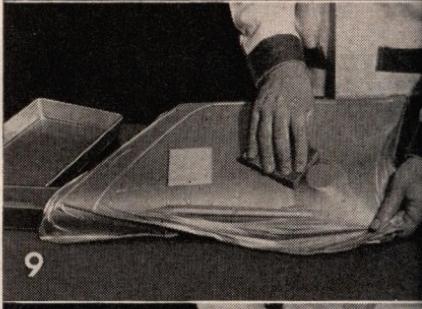
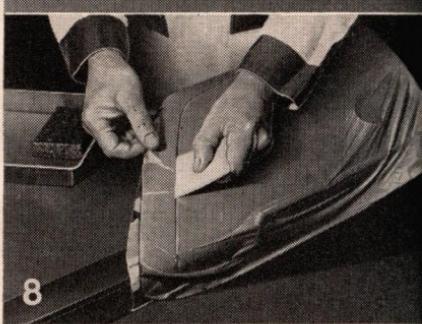
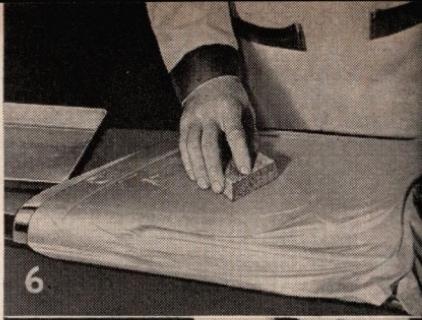
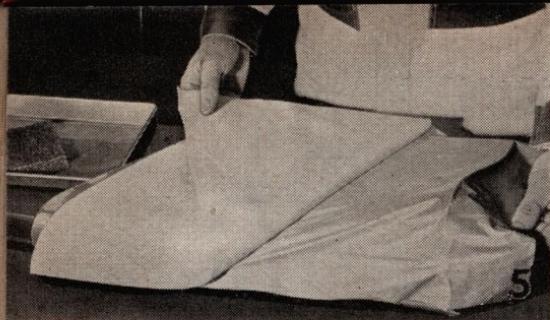
Fig. 6. Wet sponging transfer to remove air bubbles and wrinkles.

Fig. 7. Using a squeegee to remove remaining air bubbles and wrinkles.

Fig. 8. Depressing transfer into grooves with the squeegee.

Fig. 9. Stretching transfer around contour with sponge.

Fig. 10. Stretching transfer around contour with squeegee.



He's a One Man Gang!



DID YOU EVER STOP TO THINK HOW MANY SERVICES YOUR JOBBER PROVIDES FOR YOU?

To do any more, he'd have to be *twins*! He's your local jobber . . . and he'd beat his brains out to serve you. Take inventory of the tremendous list of services he provides. Remember . . . he offers such a *big* hunk of service that the trade would stand still without him!



FEDERAL-MOGUL
SERVICE
DETROIT 13, MICH.

DIVISION
FEDERAL-MOGUL
CORPORATION

Your Jobber

- ✓ PURCHASING
- ✓ WAREHOUSING
- ✓ MACHINE SHOP
- ✓ DELIVERY
- ✓ CREDIT
- ✓ BOOKKEEPING
- ✓ INFORMATION
- ✓ REBUILDING
- ✓ PARTS
- ✓ TOOLS
- ✓ SUPPLIES
- ✓ ACCESSORIES
- ✓ EQUIPMENT

YOUR FRIENDLY JOBBER IS ESSENTIAL TO GOOD SERVICE!

To the top dealers in the nation . . .

ELEVEN MAKES OF CHAMPION SPARK PLUG

PLACE: *Darlington (S.C.) 500-Mile Grand National Stock Car Race*

ENTRIES: *52 Stock Cars of 11 Different Makes*

SPARK PLUGS: *Champions Exclusively*

THE RECORD: *Not a Spark Plug Replaced in Any Car During the Entire Race!*

They play for keeps in "big time" stock car racing. The prize money is big. The competition is tough. Equipment must stand up and deliver under punishment equal to years of normal driving. That's why you can be mighty proud of Champions' latest record:

At the Darlington (S.C.) 500-Mile Stock Car Grand National Race, all 52 entries—including 11 different makes of cars—used Champion Spark Plugs. And not a single Champion needed replacement during the entire race!

Here are the stock cars that made spark plug history at Darlington:

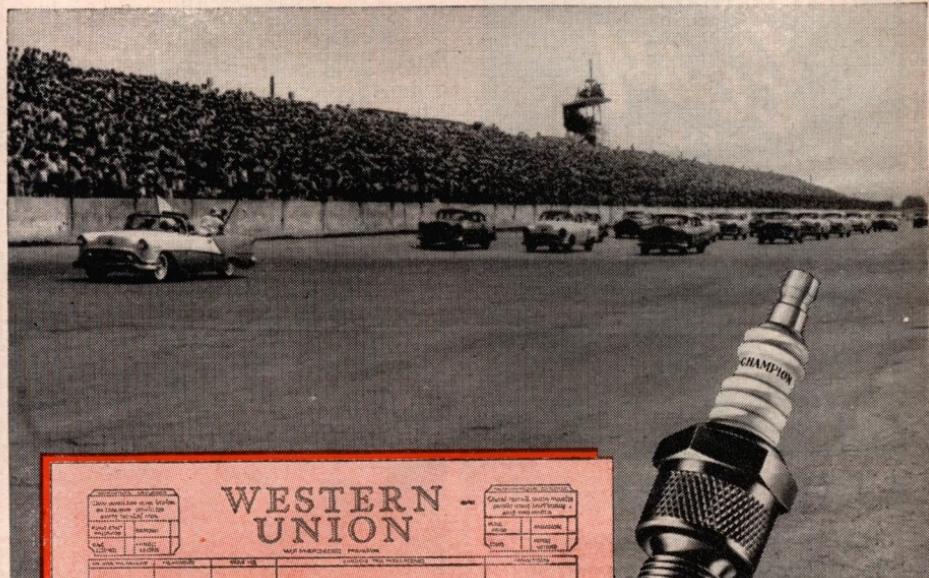
BUICK	DODGE	MERCURY	PLYMOUTH
CADILLAC	FORD	NASH	STUDEBAKER
CHRYSLER	HUDSON	OLDSMOBILE	

Professional drivers—like your customers—have different favorites in automobiles. But when the chips are down and performance is the payoff, the experts install Champions regardless of the make of car!

This is great sales ammunition for every Champion dealer . . . proof in action of Champions' superiority over all other spark plugs!

Sincerely,

PASSENGER CARS SET PERFORMANCE RECORD!



WESTERN UNION -

MAIL MURKIN CO., INC.



SEPT. 6, 1954

CHAMPION SPARK PLUG COMPANY

TOLEDO, OHIO

ALL 52 CARS ENTERED IN THE 1954 NASCAR SANCTION
500 MILE GRAND NATIONAL RACE AT DARLINGTON, S.C.
USED CHAMPION SPARK PLUGS EXCLUSIVELY AND NO
SPARK PLUGS REQUIRED REPLACEMENT.

BILL FRANCE, PRESIDENT,
NASCAR

The all-Champion start at Darlington. Winners, in order, were: Hudson, Olds, Dodge, Hudson, Mercury, Olds, Dodge, Cadillac, Olds, Buick. (At left) Confirming telegram from Bill France, president of the National Association For Stock Car Automobile Racing.

**Champions Make Any Car Run Better...
And You Can Prove It!**

REPLACE
your slow
obsolete sanders
with
Fast New Straightline

DETROIT

Easy
FINISHERS

NEW air or electric

AIR MODEL
J-R \$69⁵⁰

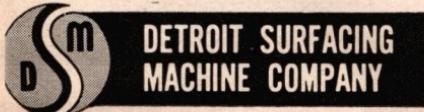
SHOW STOPPER!!!

FASTEST—Most Sensational
Feather-Edger—Sander—Disc
ENTIRELY New DUAL-ACTION
Method of Finishing
REVOLUTIONARY—See this
Exciting "NEW-PRINCIPLE"
Sander!

NAME IT!
WIN A PRIZE!
SEE the new EASY at

A. S. I. Booth C-323

DEALERS: Ask your Jobber or Write!



1246 E. EIGHT MILE RD. - DETROIT 20, MICH.

REFINISHING INSTRUMENT PANELS

(Continued from page 60)

to depress the transfer into any grooves, Fig. 8. When working the transfer around contours, it is advisable to stretch the transfer with the sponge and squeegee in overlapping strokes, Figs. 9 and 10.

After working the transfer to a smooth surface, trim the excess edge of the transfer with a sharp razor blade, Fig. 11. Then sponge the trimmed edges with the water soluble adhesive so that the edges are sealed.

Under normal conditions of temperature and humidity the transfer will be dry in 30 minutes or a heat lamp will dry it in 10 minutes. When using a heat lamp, it should be placed approximately 18 in. from the surface.

After the transfer is thoroughly dry, spray the surface with water clear lacquer and if a higher gloss is desired, the surface can be polished with body polish.



Fig. 11. Trimming excess transfer with a razor blade.

"How many steers do you think are in that herd?", asked the rancher of his guest.

"416" was the reply.

"Remarkable, but how did you ever guess?"

"I didn't. I counted the legs and divided by 4."

SOLVE BOTH YOUR BATTERY SERVICING NEEDS WITH THESE 7 great new chargers



MODEL 211
6-12 VOLTS
100-60 AMPS.

The most complete charger with the minutes-of-charge 20 second tester... boosts charging profits up where they should be.

You equip your service department with chargers for two reasons: (1) to raise profits and (2) to give complete service. Marquette's all-new chargers pay off both ways! Switch from ordinary chargers to higher quality Marquette chargers and pay no more. Ask your jobber salesman for a demonstration. There's a model for your every need.



MODEL 212
6-12 VOLTS
70-45 AMPS.



MODEL 215
6-12 VOLTS
80-50 AMPS.



MODEL 204
6-12-24 Volts



MODEL 206
6-12-24 Volts

MODEL 207—6-12 VOLTS—20-12 AMPS.

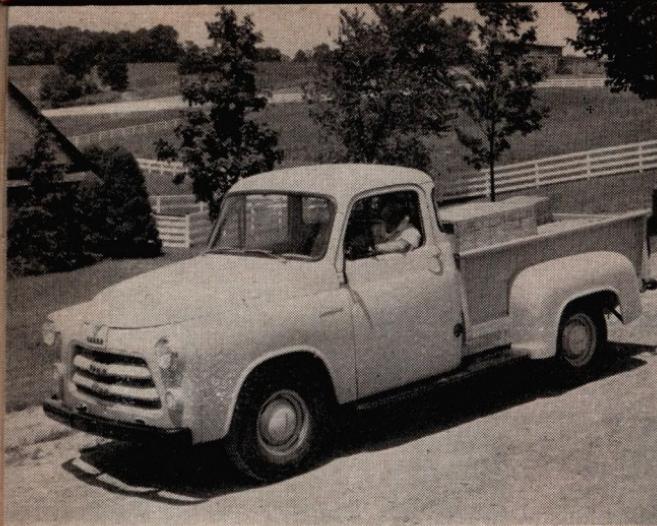


MODEL 217—6-12 VOLTS—100-50 AMPS.

Surprisingly low-priced charger and tester.

MARQUETTE MANUFACTURING CO.,

307 E. HENNEPIN AVE., MINNEAPOLIS 14, MINNESOTA



wide and unrestricted manifold passages.

The rubber-covered resistor type spark plugs are located outside the valve cover, making them easily accessible for cleaning or replacement.

Power-Dome V-8 engines are now optional in $\frac{1}{2}$, $\frac{3}{4}$, 1, $1\frac{1}{2}$, 2, and $2\frac{1}{2}$ -ton models and are standard in all $2\frac{3}{4}$, 3, and $3\frac{1}{2}$ -ton models.

DODGE TRUCKS GET 145-H.P. V-8

A COMPLETELY new 145-horsepower Power-Dome V-8 truck engine is now optional in Dodge half-ton, $\frac{3}{4}$ -ton and 1-ton trucks for those buyers who require more horsepower and torque than that provided by the 110-horsepower 6-cylinder engine. Piston displacement of the new 145-horsepower Power-Dome V-8 engine is 241.4 cubic inches, with a bore of $3\frac{7}{16}$ inches and a stroke of $3\frac{1}{4}$ inches. Compression ratio is 7.5 to 1. Maximum gross torque of 215 lb.-ft. is developed at 2400 r.p.m.

Other outstanding features of the new engine include hydraulic valve tappets, chrome-plated top piston rings, and use of a new chrome-alloy cylinder head which eliminates the need for valve guides and valve seat inserts.

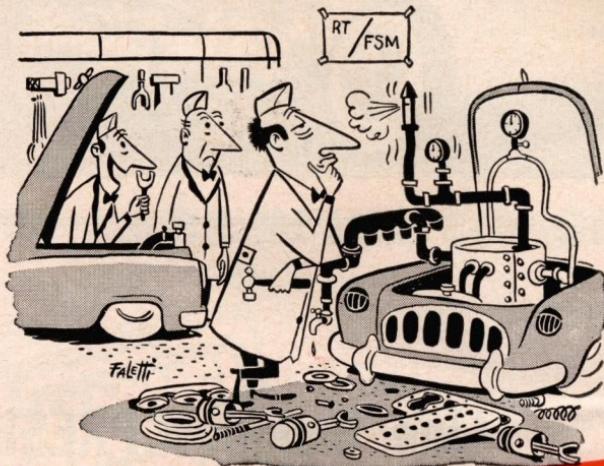
It has been given greatest possible breathing efficiency by use of large high-lift valves in a new offset overhead valve arrangement together with

Dodge trucks are now offered in 6's and 8's in 12 horsepower ratings—103 to 172 horsepower.



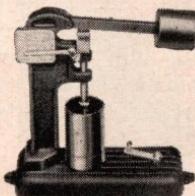
"I think I'll drive the ol' crate another year before I trade it in."

"Stick around a minute . . . it's just about to hit
Chadwick that he's done something wrong again!"



©1954 KMO

You know the job's done right with Kent-Moore Special Service Tools!



A NEW MONEY-MAKER!

It's the new Kent-Moore J 5790 Hydraulic Valve Lifter Tester. And it's applicable to every one of the 125 million lifters now in use! Cash in on this profitable market! Write Kent-Moore for literature and jobber location today!

Time was when you could repair most anything that rolled into your shop with a handful of standard shop tools . . . wrenches, screw drivers, and a pair of pliers. But not any more! Today, cars are so vastly improved they do everything but drive themselves. Now you have to be a specialist to go near many essential repair jobs. And to do those jobs *right* you need *special* tools . . . Kent-Moore Special Service Tools.

Just look through your manufacturer's shop manual, for example. You'll find that Kent-Moore Tools . . . designated by "J" numbers . . . are recommended for many important operations where ordinary tools can't fill the bill. That's because each Kent-Moore Tool is designed to do its specific job quickly, easily, accurately, and without damage to parts. The results? Good service at a fair price with positive profits for you!

KENT-MOORE ORGANIZATION, INC.
5-105 General Motors Building • Detroit 2, Michigan





Fig. 1. This Studebaker hardtop convertible is powered by the "Wildcat" V-8 engine of 175 hp.

Studebaker

Line Includes PRESIDENT

ENGINES ranging from 101 to 175 hp. are used in the Champion, Commander and new President models of the 1955 Studebaker line. The new President V-8 engine is practically square with a stroke of $3\frac{1}{4}$ in. and a bore of $3\frac{3}{16}$ in. This engine is fitted with a four-barrel carburetor. The two additional barrels being actuated mechanically by the accelerator pedal.

Cast iron camshafts of a new design and hardenable cast iron lifters actuate the overhead valve arrangement. Large valve ports and restyled intake and exhaust passages enable the

engine to take a full charge of fuel mixture. Fuel pumps on all engines are inverted to reduce the possibility of vapor lock.

Tubeless tires are standard equipment on all '55 models. Conventional tires with tubes are available on special order only. The Hill-Holder device is standard equipment on Commander and President models with conventional and overdrive transmissions. It is optional and extra on Champions. All automatic drive units have a low gear start and gear shifts

(Continued on page 134)

Studebaker '55 Service Specifications

	Champion	Commander	President
Engine, Bore and Stroke	$6-3 \times 4\frac{3}{8}$	$8-3\frac{9}{16} \times 2-13/16$	$8-3\frac{9}{16} \times 3\frac{1}{4}$
Compression Ratio	7.5-1	7.5-1	7.5-1
Piston Rings	3	3	3
Intake & Exhaust Tappet Clearance	.016 Cold	.023-.025 Hot	.023-.025 Hot
Oil Pump Pressure	40 at 1400-1600	40 at 1400-1600	40 at 1400-1600
Engine Refill Capacity	5 qts.	6 qts.	6 qts.
Camber	0 to ± 1 deg.	0 to ± 1 deg.	0 to ± 1 deg.
Caster	$1\frac{1}{4}$ deg. $1/16$ - $1/8$	$1\frac{1}{4}$ deg. $1/16$ - $1/8$	$1\frac{1}{4}$ deg. $1/16$ - $1/8$
Toe-in			
Spark Plugs	Ch. J7, .028-.033	Ch. H11, .033-.038	Ch. H11, .033-.038
Distributor Breaker Gap	.020	.013	.013
Cooling System Capacity	$11\frac{1}{2}$ qts.	$18\frac{3}{4}$ qts.	$18\frac{3}{4}$ qts.

MARVEL keeps

NEW CARS NEW LONGER... USED CARS IN USE LONGER...



Profit-minded dealers and repair shops know the best advice they can give a customer is to suggest Marvel in the crankcase and gas tank:

Whether he has a new car or used car, it's advice a driver can *hear* in the hum of his motor... *feel* in the smooth, powerful thrust of his car.

For Marvel really registers — in the increased mileage a man gets out of his car per gallon . . . in the lower service charges he shells out at inspection intervals.

Moral: There are times when talk pays off in repeat business. These are the times you talk up Marvel Lubrication Service.

**FOR MORE PROFITS—
PUSH MARVEL MYSTERY OIL
AND THE MARVEL INVERSE OILER**

Install a Marvel Inverse Oiler for direct lubrication to the heart of the engine. Feeds in direct proportion to horsepower curve through inverse ratio to manifold vacuum. No other oiler works on this principle! Fully adjustable. Easy to install. Fully guaranteed.

Marvel in the crankcase lays a strong, heat-resistant film of oil on all moving parts... eliminates hydraulic valve chatter... provides ring seal... cleans and cools and protects bearings and vital upper cylinder regions. The car runs for many more engine miles per dollar.

Your jobber can supply you, or write:
EMEROL MANUFACTURING CO., INC.

Dept. 219, 242 W. 69th St., New York 23, N.Y.



Factory Service Hints

Hudson Shift Control Adjustment

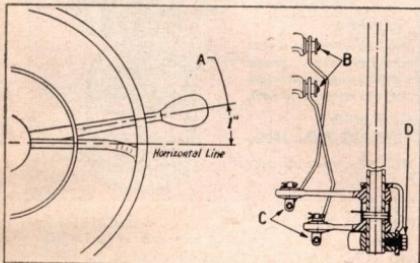
WHEN reports of gear clashing or difficulty in shifting gears on Jet Models, equipped with manual shift transmissions, are received from the field, the rods connecting the levers at the bottom of the Handy Shift Control with the transmission, should be adjusted as follows:

1. Remove cotter pins and disconnect shift rod trunnions from ends of levers on control tube.

2. Loosen cap screw (D) holding shift lever anchor bracket to control tube lower bracket. Press down on top of anchor bracket, compressing spring washer and tighten screw securely.

3. Place hand control lever in neutral position (A). This is the crossover position in which the lever should be one inch above true horizontal position when measured at end of knob.

4. Check transmission and make sure low and reverse and second and high shift shafts (B) are in the neutral detents.



5. Back off lock nuts (C) at trunnion on second and high shift rod and without disturbing position of hand control lever or transmission shift shaft, install trunnion in grommet at end of second and high lever. Tighten lock nuts, using care not to change length of rod.

6. Adjust length of low and reverse shift rod so trunnion will enter hole in low and reverse lever grommet without disturbing position of either the hand control lever or the transmission low and reverse shift shaft.

7. Readjust if necessary, so hand control lever moves up and down freely in neutral position.

Radiator-Water Pump Time Saver

SERVICEMEN will be pleased to learn that when it is necessary to remove both the radiator and water pump to perform other work on a Cadillac engine, it will save a great deal of time to remove these parts as an assembly rather than as separate units. Experienced servicemen know how difficult it sometimes is to remove the upper and lower radiator hoses.

The easy way is as follows:

1. Drain cooling system.
2. Disconnect heater hose at water pump.

(Continued on page 144)

CAMSHAFT BEARINGS

Just like the original equipment



MULTIPLE TESTING
FOR ACCURACY

● Johnson Automotive Bearings you sell are "twins" with those furnished the car manufacturer. They are produced to the same rigid specifications and are given the same tests and inspections. They are easy to install and fit perfectly. Sell Johnson Bearings with complete confidence.

JOHNSON BRONZE COMPANY
545 So. Mill St., New Castle, Pa.



Packed in
complete sets



JOHNSON  **BEARINGS**
Sleeve-JType

Sleeve Bearing Head-
quarters Since 1901

Build Goodwill with Every Gift



by giving... ***Snap-on Tools***
to every man on your Christmas list!



SNAP-ON GIFT CERTIFICATES

These certificates let the recipients choose their own pet Snap-on Tools. Your Snap-on man will make them out in whatever denominations you wish.



Your thoughtfulness in giving Snap-on Tools will be remembered long after many a more costly, short-lived gift would have been forgotten. They'll remind the men in your shop who receive them, time after time, that you valued their loyalty and respected their skill so much that you gave them the best. Could any present do more?

Snap-on Tools build good-will. And it's so easy to make just the right choice, too. The Snap-on man who serves your shop knows mighty well (or can find out fast) exactly what tools each mechanic has had his eye on! Or—to show complete regard for a mechanic's personal preference—there's the Snap-on Gift Certificate, in any amount you wish.

For your friends, too—for any man on your Christmas list—Snap-on Tools are wonderful gifts. Time's getting short, though. Why not take care of the matter NOW? Just buttonhole your Snap-on man.



*Snap-on is the trademark of Snap-on Tools Corporation

SNAP-ON TOOLS CORPORATION

8038-K 28th Avenue, Kenosha, Wisconsin

TIME-SAVING "SPECIAL" TOOLS—Money makers for many operations on Ford, Mercury, Lincoln. Ask your Snap-on man to show you these and "specials" for other cars on his next call.

Now!

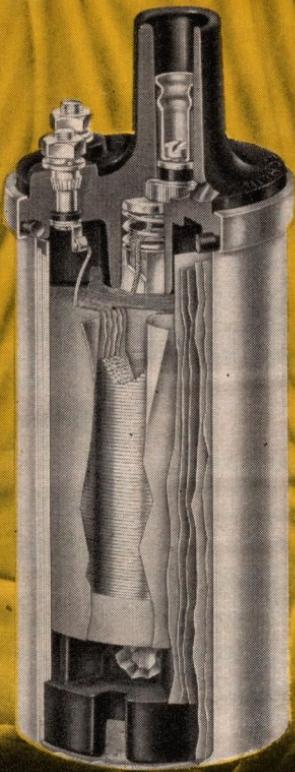
OIL FILLED COILS

for all 3 systems

ALL THESE
ECHLIN EXTRAS
AT NO EXTRA COST
TO YOU!

Oil Impregnated Winding
for Perfect Insulation
Vacuum Filled Case Leaves
No Air Pockets
Completely Waterproof to
Assure Long Life
Low Current Draw—Ex-
tends Contact Life
Correct Diameter and Ter-
minal Position for Every
Application

The Complete Line of Oil Filled
Coils for all Modern Vehicles...
The Finest Coil Ever Designed
Regardless of Price . . . YOURS
at No Premium Price.



ECHLIN

Ignition



CONTACTS
COILS • CONDENSERS
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ELECTRICAL PARTS

ECHLIN MANUFACTURING COMPANY, Dept. MS, 220 EAST ST., NEW HAVEN 5, CONN.

CHAMPION DESIGNS

New Plug

A NEW Champion spark plug, known as the Turbo Action, and designed specifically for the modern, high compression, high output engines is announced by the Champion Spark Plug Company.

The new plug provides a much wider heat range and considerably reduced tendency toward fouling during prolonged city driving. In addition, preignition under high speed full throttle driving is prevented.

These features result from greatly increased clearance volume between the firing end of the insulator and the bore of the spark plug shell.

Champion engineers list the following advantages of the design of the new Turbo Action spark plug:

1. It permits more effective "charge cooling," most important at high power with high turbulence.

2. The improved "charge cooling" permits the use of a relatively longer insulator nose, which lengthens the electrical leakage path from the center electrode tip to the shell and affords further increased resistance to fouling.

3. At low speeds and low power, where "charge cooling" is less pronounced, the long insulator maintains a temperature high enough to minimize fouling.

4. It reduces the amount of fuel deposits which can accumulate on the insulator nose in a given period of time, while increasing the amount of fuel deposits that can be tolerated before fouling occurs.

5. By making the internal surfaces more accessible for sandblasting, etc., the new plug makes

(Continued on page 136)

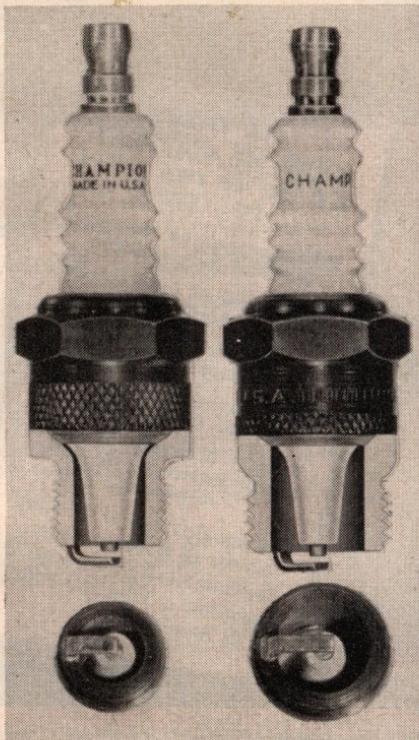


Illustration shows clearly the larger clearance volume at the firing end of the Turbo Action spark plug, right, as compared to the previous design. Note also the beveled seating surface which eliminates the gasket between the plug and the cylinder head.

Check



FRAM for PROFIT!

REMEMBER: More motorists know and ask for FRAM than any other filter because FRAM is best advertised! Prove it to yourself with profits! Call your FRAM Distributor today and stock up on the complete FRAM line!

No other filter manufacturer gives you all these profit-makers in a single line! FRAM oil, air, fuel and water filters — plus replacement cartridges — give you one or more chances for profit every time you lift a hood!

FRAM
OIL • AIR • FUEL • WATER
FILTERS

FRAM CORPORATION
Providence 16, R. I.
Fram Canada Ltd., Stratford, Ont.



A FRAM
Cartridge
for most
every engine!

Repeat sales—repeat profits from the complete line that includes the C-4 — world's largest selling filter cartridge.



FRAM
Gasoline
Filters!

Simple to install on any make or model car! Easy to service with profitable FRAM replacement cartridges!



FRAM
Oil Filters
guard more
engines!

More than 20 million FRAMS in use! Every additional one you sell adds another source of cartridge profits!



FRAM
Positive Crank-
case Ventilator!

Lets engines breathe clean, fresh air. You get fresh profits too, every time you sell a new, easy-to-install cartridge!



FRAM
Radiator &
Water Filter!

Ends cooling system troubles due to rust and scale. Every engine needs one. A natural for replacement cartridge profits!



FRAM
Carburetor
Air Filter!

Protects against air-borne abrasives! Every motorist is a prospect for this great FRAM product. Easily installed.

**Pre-seated
for early
break-in**

1

Pre-seated, narrow land contact surface of Krome-Oil top groove compression ring



Pre-seating is a factory-applied lapping process equivalent to 300 to 500 miles of actual engine operation. This assures fast oil control, reduced oil consumption and customer satisfaction. Customer satisfaction is important to a profitable operation.

**Full chrome
ring set**

2



There's chrome facing on the top groove compression ring and on the side rails of the steel oil ring. This is where chrome pays off in longer engine life. Krome-Oil rings lick the problem of ring scuffing and still assure quick seating and immediate oil control because they are pre-seated.

Garage men, mechanics...

**Here's 3 proven reasons
why you save cash on
chrome installations with**

AMERICAN HAMMERED

**Pre-seated Krome-Oil
PISTON RING SETS**

3

All-in-1 ring envelope

All-in-1 ring envelope, contains all the rings for one piston. They're packaged in this envelope in the order of installation. This prevents mix-ups, saves your time.



Install Krome-Oil, the chrome ring set with all the answers

American Hammered

AUTOMOTIVE REPLACEMENT DIVISION

2001 Sanford Street • Muskegon, Michigan

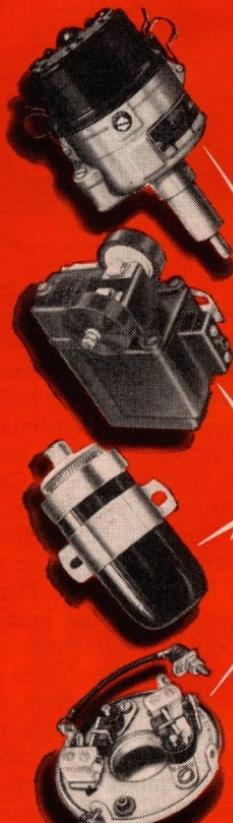
*Manufacturers of American Hammered Automotive Replacement
Piston Rings. A Division of Sealed Power Corporation*

Remember profit-packed American Hammered Power-Plus Service — Koetherizing • GI-60 Groove Insert • Dry Film Lubricant

Mallory

Mallory

REGISTERED U. S. PATENT OFFICE



Does Your Engine Suffer From SPARK HANDICAP?

You Will Never Know

UNTIL YOU INSTALL MALLORY IGNITION

MALLORY DUAL-POINT DISTRIBUTORS
(LIST PRICE \$28.80 TO \$42.10)

MALLORY MAGSPARK TRANSFORMER
(LIST PRICE \$22.00)

MALLORY "BEST" COIL
(LIST PRICE \$13.10)

MALLORY BALLBEARING ADVANCE PLATES
(LIST PRICE \$3.40 TO \$11.90)

MANY OWNERS DO NOT THINK THEY HAVE IGNITION TROUBLE

Due to the smoothness of operation brought about by more powerful engines and improved transmissions, it is hard for the owner to detect erratic ignition. He may drive miles and miles complaining about gas mileage and lack of power, whereas if he would put his engine on a chassis dynamometer, he would find in many cases that he had ignition trouble and did not know it.

A MALLORY IGNITION SYSTEM IS AVAILABLE FOR YOUR CAR OR TRUCK. MALLORY BALL-BEARING DUAL-POINT ADVANCE PLATES CAN ALSO BE SUPPLIED FOR MOST ALL MAKES OF CARS TO FUNCTION WITH THE REGULAR COIL, THE MALLORY COIL, OR THE MAGSPARK TRANSFORMER.

MALLORY ELECTRIC CORPORATION • 12416 Cloverdale Ave. • DETROIT 4, MICH.

BAD BRAKES Crumple Fenders

FORTY-FOUR thousand dented fenders last year resulted from the unfortunate combination of women drivers and bad brakes.

This makes a sizable mountain of dented fenders. Or, laid end to end, enough mangled metal to reach more than sixty miles.

National Safety Council figures show that one out of three accidents caused by mechanical failure resulted from unsafe brakes. This is the largest single mechanical cause of accidents. Six of one hundred accidents result from mechanical failure.

Recent figures of the same organization show that women drivers were involved in approximately 2,200,000 automobile accidents last year. Keep this under your hat, but this amounts to only 12 per cent of all automobile accidents. Men, unfortunately, were involved in 88 per cent of the accidents.

To save women the embarrassment of reporting 44,000 additional dented fenders, or more serious trouble, in the next 12 months, brake experts at Raybestos Division of Raybestos-Manhattan, Inc. offer some words of advice.

There are several good habits that shop men can pass on to their customers on how they can get maximum performance from their brakes.

1. A light amount of pressure on the brakes as the car is being backed out of the driveway. This cures what



Courtesy of National Safety Council

the experts like to call "morning sickness"—or the accumulation of moisture on some types of brake linings.

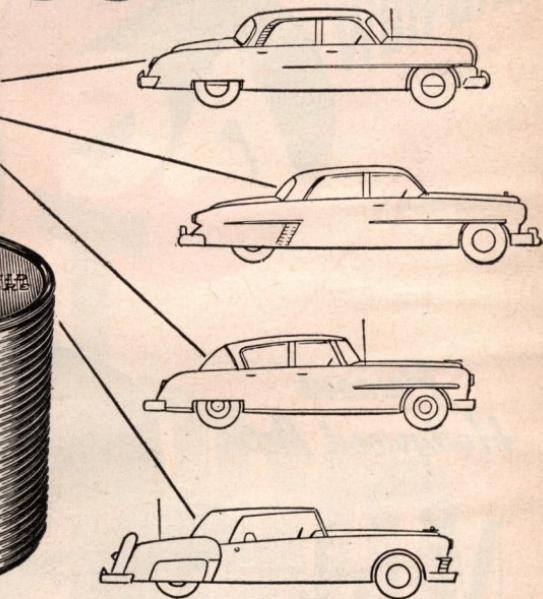
2. When traffic conditions permit, slow down with a series of short brake applications. Heavy and continued pressure on the pedal causes the temperature at the lining to soar. Cast iron brake drums have been known to get cherry red from the heat. Short applications allow a rush of air to cool the brakes between them. Don't let your customers forget that heat is the worst enemy of brake linings.

3. Unless the car is to be slowed or stopped, the foot should be kept off the pedal. Even a slight pressure on the pedal causes the lining to contact the drum and this continuous friction raises the temperature and increases the gas mileage.

4. Tell the car owner that he should get his brakes inspected every 5000 miles. Remind him that "later" was too late for about 44,000 women to save their fenders last year.

(Continued on page 140)

DON'T ACCEPT LESS...



KESTER'S BEST

KESTER SOLDER COMPANY

4237 WRIGHTWOOD AVENUE • CHICAGO 39, ILLINOIS

NEWARK 5, NEW JERSEY • BRANTFORD, CANADA

**KESTER
SOLDER**

AC Big

... in magazine
advertising!



AC Big

... in billboard
advertising!

and now



goes **TV**

Famous
Hollywood Actor

**Mark
Stevens**

All-Star Supporting Cast!



IN



**QUALITY
PRODUCTS**

AC SPARK PLUG DIVISION



GENERAL MOTORS CORPORATION
FLINT, MICHIGAN



... in point-
of-sale
advertising!

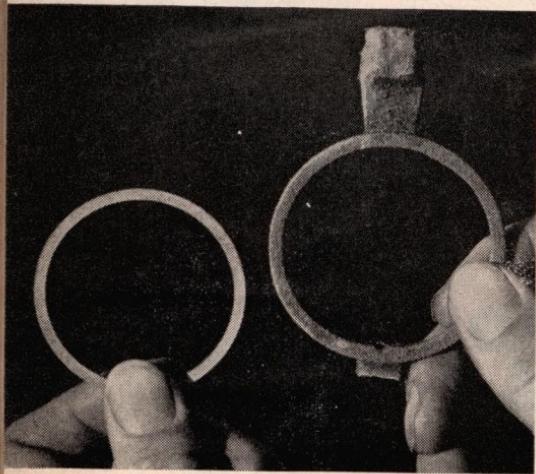


with **Big Town**

AC believes in doing the strongest possible advertising job to pre-sell the car-owning public on the dependability and superiority of AC Quality Products. Already a dominant advertiser in other media—*AC now goes TV!* That means tremendous new selling impact for AC—another great pre-selling effort to influence the people *you* want to sell.

SEE AC ON NBC TV

MUSKEGON MAKES RINGS of Powdered Iron



The ring on the left is a powdered ring after removal from sintering process. On the right is a conventional cast ring just after it has been taken from the mold. This photo shows the elimination of waste metal in the Muskegon type ring.

A COMPLETELY new type piston ring made from powdered iron is being offered as a potential improvement for high horsepower engines. The new rings are being made by the Muskegon Piston Ring Co. and advantages of the powdered iron ring may provide the answer to engine builders who have long been seeking thinner rings to reduce horsepower losses traceable to friction.

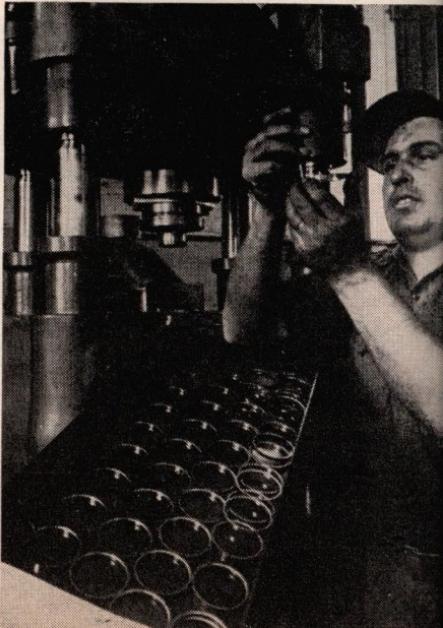
The powdered metal process may be utilized to achieve thinness without sacrifice of needed strength. Size for size, tests made by Muskegon showed that tensile strength of the powdered iron ring is as much as 50 per cent greater than for a cast ring.

Development of the new ring climaxes more than 14 years of powder metallurgy research by Muskegon and two years of practical experience in the production of millions of rings for automatic transmissions and smaller gasoline engines.

Harold G. Vaughan firm president, said that this past research and production experience plus thorough testing indicated that the same degree of success achieved by the company in the smaller rings may be expected from the larger automotive rings. The new rings have been road tested more than 75,000 miles without trouble.

(Continued on page 142)

This is the press which is used now to form the rings from the sifted mixture of powdered iron. After this, they are fed to a process called sintering. This is where the briquettes, as they are called at this point, are fused into solid rings.



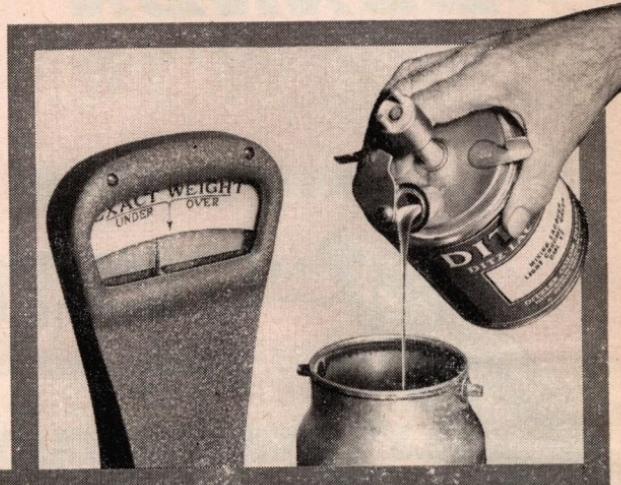
Any COLOR..Any QUANTITY..Any TIME! with Ditzler's Exact-Weight Color-Mixing Service

Eliminates
Waste

Cuts Costs
Speeds Up
Service



DITZLER'S new compact Moto-Mix is an electric motor-driven device for stirring a quart or a gallon of paint. It eliminates the drudgery of hand stirring, saving time and work. It is designed especially for use with the agitating and pouring lids furnished with the base colors of the Ditzler Exact-Weight Color-Mixing Service.



THERE'S NO NEED to wait for paint deliveries when you have Ditzler's Exact-Weight Color-Mixing Service. You can mix the amount you wish in a few minutes of any of the 3400 active automotive colors in lacquer or enamel. There's no guesswork . . . no over-orders . . . no half-filled cans on your shelves.

Included in this service is an extremely accurate scale which will weigh as little as 1/4500ths of a gallon of paint. This method of measuring color by weight, pioneered and perfected by Ditzler, is much more simple and correct than other devices which measure by volume. You control the amount accurately because you watch the scale while pouring without shifting your gaze.

You can make substantial savings by mixing your own colors with Ditzler's Exact-Weight Service . . . savings that range as high as 50 per cent of factory-standard colors. We'll be glad to furnish you additional information on this service.

DITZLER COLOR DIVISION, PITTSBURGH PLATE GLASS COMPANY
Detroit 4, Michigan



DITZLER

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

4 SUNNEN CYLINDER GRINDERS HANDLE ALL ENGINES

25 Years
Outstanding
Performance

... Produce the Ideal Surface
for Seating Rings



SN-70 New Midget Cylinder Grinder —range $1\frac{3}{4}$ " to 2", for power lawn mower and outboard motors.

JN-90 Junior Cylinder Grinder —range 2" to 2.6", for many Briggs and Stratton engines, and foreign car engines.

AN-110 Standard Cylinder Grinder —range $2\frac{1}{2}$ " to 7", for practically all passenger cars, trucks, buses and tractors.

AN-812 Heavy Duty Cylinder Grinder —range $4\frac{3}{4}$ " to $14\frac{1}{2}$ ", with heavy shank and universal joint.

Sold on a
**MONEY BACK GUARANTEE
OF SATISFACTION**
Call your Sunnen Jobber

7905

SUNNEN PRODUCTS COMPANY

7905 Manchester Ave., St. Louis 17, Missouri

Canadian Factory: Chatham, Ontario

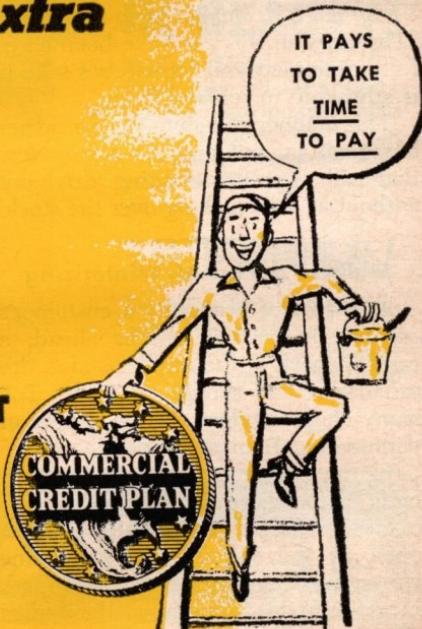
"THE BEST EQUIPPED SHOP
GETS THE PROFITABLE BUSINESS"

Install modern, new
shop equipment now...
pay for it on time with
COMMERCIAL CREDIT PLAN
while it earns extra
profits for you.*

* Just about every piece of shop equipment shown or written about in this magazine may be purchased from your automotive jobber on the COMMERCIAL CREDIT PLAN. As long as it costs \$100 or more, it's yours for a nominal down payment with up to 2 years to pay.

COMMERCIAL CREDIT CORPORATION

A service offered through subsidiaries of Commercial Credit Company, Baltimore... Capital and Surplus over \$150,000,000 ... offices in principal cities of the United States and Canada.





Merchandising

for Parts and Service Departments

TIRES, BATTERIES, ACCESSORIES, TOOLS, SUPPLIES

A Danger Sign

The tires of every car that passes through a Milwaukee dealer's service shop are carefully inspected by the order writer or shop foreman. If the inspection shows that the tires are in dangerously worn condition, the customer is informed. The way this is done is both interesting and profitable, but most important of all very simple.

A card about 6 × 10 in. is attached to the windshield under the wiper on the driver's side. On the card in 2 in. red letters is the word D-A-N-G-E-R. Underneath in smaller type is written, "The tires on this car have been carefully examined and for safety's sake it is advisable to replace them."

This manner of selling the car owner has great impact and it's a very few that will, after this warning, drive out without at least looking over the stock.

Mufflers a Part of Winterizing

As a part of preparing a customer's car for the winter months ahead, a careful check of the muffler and entire exhaust system should be made. Too many shops neglect this as a part of winterizing. It must be done.

In the winter, a car's windows remain closed most of the time. Not too many drivers keep a ventilator window open as they should and on some winter mornings, they can't be blamed. However, this creates a dangerous situation if there is a leak anywhere

along the exhaust system of the car.

Safety experts agree that proper ventilation of a car in all types of weather is necessary to eliminate the possibility of carbon monoxide poisoning. This danger is minimized if a careful check is made of the exhaust system and muffler. This is most important in the winter, because car windows are most often closed.

Remember, death from faulty exhausts is not so sudden, but just as final.

For the Bargain Hunter

An interesting way of disposing of an overstock of tires and tubes has come to our attention. It uses the idea that almost everyone is a bargain hunter at heart and will look favorably at getting a bargain. The idea worked for a dealer and should do the same for you.

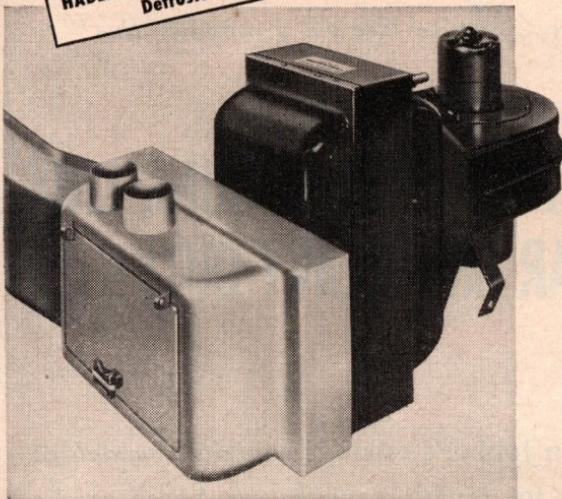
At this time of year, the most seasonal item of groceries is a turkey. For every pair of tires and tubes sold, a turkey is given away free. A local poultry wholesaler can supply them at a very reasonable price or a local promotion-wise retailer can do the same for the added publicity the deal will give him.

The dealer that originated the idea found that 90 per cent of the sales were on the insistence of the car owner's wives. It's a bargain and who can resist one.

When it comes to Heaters . . .

NOTHING'S HOTTER THAN HaDees!

**HADEES: The Quality Name in Automotive Heaters,
Defrosters, Safety Fans and Thermostats.**



Illustrated: #H883 Chevrolet. New Conditionaire Custom-Built for all Popular Make Cars: Ford, Plymouth, Chevrolet.



IN SALES!

Every HaDees Heater Dealer enjoys fast, profitable turnover. Complete range of prices and models for all cars!

IN BEAUTY!

HaDees Heaters have the sleek streamlined appearance to harmonize with modern car styling. Custom models designed with dash-matching control panels!

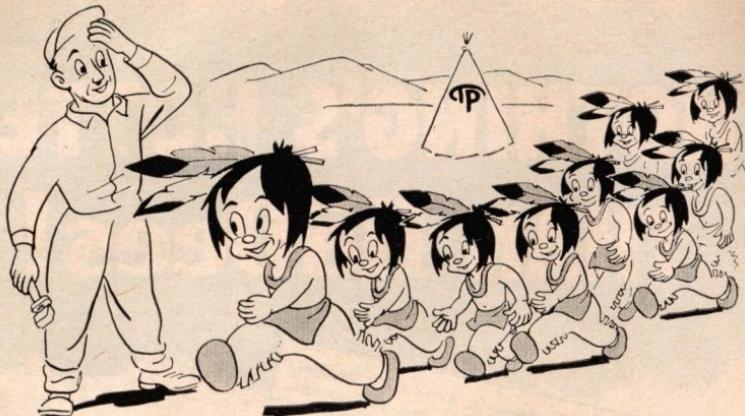
IN POWER!

Over size fans and heavy-duty cores deliver up to 25% more heat. Easiest of all to install. No holes to drill!

For colorful free folder showing all models, write to

HaDees Heaters

HaDees Heater Division of the Gabriel Co., Rockford, Ill.



"Gosh, Pee Wee . . . you've sure got a complete line!"

STOCK UP WITH TP'S BEARING LINE... REGULAR AND HEAVY DUTY!

YOUR Thompson Jobber's catalogs contain *thousands* of bearing listings for replacement in cars, buses, trucks and tractors. These are *exact duplicates* of those selected over all others by automotive manufacturers as *original equipment*!

The durability, long life and trouble-free performance of Thompson bearings are engineering accomplishments which not only save money for the owner of the engine . . . but also make profits and contented customers for the experienced repairman who installs them.

When you need bearings . . . see your Thompson Jobber.



Thompson "CL" heavy-duty bearing. The "Ugly Duckling Bearing" that is running up sensational mileage records.



Conventional bearing.



Thompson's complete line of Engine Bearings include Thin-Layer (tin or lead base) bimetal; conventional babbitt (tin or lead base) bimetal, steel back; copper-lead bimetal, steel back; "CL" heavy-duty tri-metal (tin-lead, nickel and copper-lead base) steel back.



See your
Thompson
Products Jobber

THOMPSON SERVICE SALES
2209 Ashland Road • Cleveland 3, Ohio

Profit

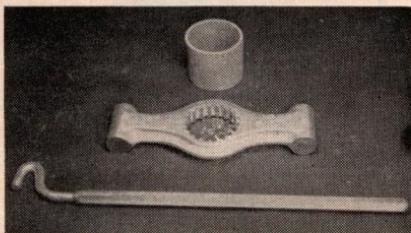
Making Products...

Well Equipped Shops Get the Business

Planetary Removing Tool

ITEM NO. 1201

A special tool kit to be used on all GM Hydramatic transmissions has been placed on the market by MEL'S AUTOMATIC TRANSMISSION CO. The kit consists of



an impact sledge tool, front band holding tool and a spacing sleeve.

The manufacturer claims it is a fast and simple kit to use. It is slipped on to the

front unit drive gear and by striking the sledge tool the jammed gears will be unlocked allowing easy removal. Heating and direct hammering has been known to cause much damage to the gears, but with this device, the gears are removed without any damage.

For more information use coupon on page 169.

* * *

Latest Graymills Catalog Available

ITEM NO. 1203

The GRAYMILLS CORP. has recently released the latest catalog on their line of Cold Solvent Type Metal Cleaning Machines and Parts Washers.

The catalog features the introduction of their latest addition to the line which is the Graymills Formula "606" carburetor and metal cleaner.

For your copy of this catalog use coupon on page 169.

* * * * *

Turntable Made by Macton

ITEM NO. 1202

An item for the automotive shop that has many uses and can become almost indispensable especially in a shop with small floor space is the turntable manufactured by the MAC-TON MACHINERY CO. The turntable can save many hours of labor and scratched fenders. In a car washing booth, it can be used to great advantage.

The turntable is 16 ft. in diameter and is operated by a simple pushbutton. It can turn either clockwise or counter clockwise. The surface of the turntable itself is made of steel with safety tread for use in shops or it can be made of wood to

match flooring if it is to be used in a display showroom.

For more information use coupon on page 169. *(Continued on page 150)*



Binks Model

18



18 reasons

why Binks Model 18 Spray Gun is
a growing favorite in body shops

- 1 Every Model 18 is tested before it leaves the plant.**
- 2 Approved by leading manufacturers.**
- 3 Over 250 nozzle combinations.**
- 4 Handles virtually all finishes.**
- 5 Precision manufacture assures correct atomization and smooth finishes.**
- 6 Drop forged aluminum body** combines strength with light weight.
- 7 Black alumilite finish** protects surface.
- 8 Drop forged bronze head** for long service with all finishes.
- 9 Convenient controls** at the back of the gun.
- 10 Comfortable pistol grip** lessens fatigue.
- 11 Two-finger trigger** gives extra smooth control.
- 12 Very low pressure drop.** Air passes through gun with little resistance.
- 13 No air leakage** at any point.
- 14 Floating needle valve** of hardened stainless steel is adjustable for wear.
- 15 Complete line of accessories** available.
- 16 Standard pipe threads** for all connections.
- 17 Available anywhere.** More than 6000 Binks jobbers are ready to serve you.
- 18 24 hour service** on adjustments and repairs.

Ask about our school. A week of training in best finishing methods, equipment selection and maintenance. No charge for tuition. All welcome. Write for class dates and curriculum.

Binks

EVERYTHING FOR
SPRAY PAINTING

FOR COMPLETE INFORMATION about the Model 18 gun or other Binks spray painting equipment, see your local jobber or write to the address below.

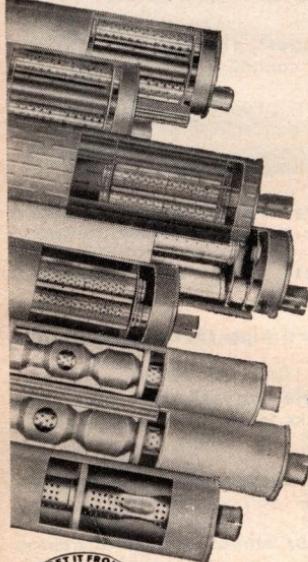
BINKS MANUFACTURING COMPANY
3130-32 Carroll Avenue West • Chicago 12, Illinois

PRATT

quality
muffler manufacturers
for over half a century

Now offers America's Newest Muffler

PRATT... A COMPLETE LINE!



4-Ply Asbestos Wrap

Standard Double Wrap

Multi-Ribbed Double Shell

Three-Pass Round

Two-Pass Round

Straight-thru Asbestos Wrap

Straight-thru Double Wrap

Truck Mufflers

PRATT—one of America's oldest, most respected muffler names—now gives you America's *newest* muffler line. New PRATT Preferred Mufflers are specifically designed for every model vehicle on the road today. PRATT mileage-proven three or four ply steel and asbestos wrapped shells for high compression engines... permanently interlocked gas-tight end caps... unique conical cushion chambers on straight-thru designs... rugged, longer-lasting twin-tube construction—modern muffler features that satisfy your customers. And to help you sell the 1 out of 3 muffler prospects *in your shops*, use PRATT'S *proved* merchandising... muffler and tail pipe stocking display racks... removal tool sets... window decals... posters, etc. Yes, everything needed to profit, you get from America's *newest* muffler line... PRATT!

PRATT builds a complete exhaust system line... PRATT Preferred Mufflers, Tail and Exhaust Pipes, for passenger cars, trucks and tractors, Hollywood-type Mufflers, Dual Exhaust and Header Systems. Ask your PRATT jobber salesmen or write to factory for full details.

PRATT

PRATT INDUSTRIES, INC.

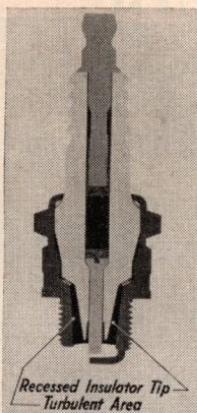
preferred
MUFFLERS

AC Makes Change In '55 Line of Plugs

THE MOST outstanding feature of our '55 line," said the AC Spark Plug Division's sales manager Edgar H. Francois, "is a 'hot tip' insulator. To the motorist, this means far superior engine performance, longer spark plug life, greater gasoline economy and less harmful deposits."

The "hot tip" was described as a recessed insulator tip with a maximum amount of space, or turbulent-area, between the insulator and shell. The company states that it is this combination of the recessed tip and the turbulent area that resists deposits that are harmful through all ranges of engine speeds.

According to Mr. Francois, "AC initiated turbulent-area spark plugs a decade ago. Since that time, AC has made numerous design and engineering improvements. The material used



in the manufacture of the insulator is claimed to be of such hardness that the insulator tip can be of extreme thinness, contributing to the turbulent-area. This has resulted, they say, in a plug that will give outstanding performance in the high compression engines of all 1955 model cars as well as all earlier models. The new line uses the standard 14 mm thread.

Other patented features of AC's 1955 line of spark plugs are copper-glass seal and heat sealed construction.

High compression engines of today develop much higher pressures so to prevent gas leakage around the center wire, AC has used a copper-glass material to form a seal against leakage and power loss. The heat-sealed construction is said to prevent fuel waste, according to Mr. Francois.

Public Buying More Gas & Oil

SPEAKING at a convention of the Tennessee Oil Men's Assn., James B. Lightburn, general sales manager, after-market div., Purolator Products, said that opportunities in gas and oil are richer now than was ever expected when the business was first started.

He pointed out that the American public is now spending \$166 for gas and oil for every \$100 it was spending in 1947, taking that year as a base year of \$100. Contrasting the figure to distilled spirits, which have dropped to \$92, legitimate theatre to \$84 and

professional baseball to \$76. The only purchases that have risen as fast as gas and oil have been purchases for amateur photography, which have gone up to \$164.

Predicting new sales records for 1955, Mr. Lightburn said, "The golden rewards of next month—next year—even the next decade, are for those who bear down on strong aggressive selling and merchandising, on factory-jobber-dealer cooperation, on education of salesmen and dealers, on full stocks and full staffs."

"Best way I've found to sell auto lamps"



You'll say the same thing when you see what the Tung-Sol Auto Lamp Merchandiser does to pep up your lamp sales. You'll have your lamp stock in one easy-to-get-at location—no loose boxes scattered over your shelves. The time you save and the extra sales you get because customers have been reminded of lamps they need, will make the Tung-Sol Lamp Merchandiser one of your most valuable sales aids.

On top of all that, the beautiful plastic cabinet costs you not a penny when you order the assortment of 100 Tung-Sol Auto Lamps—all the popular numbers you need for everyday service. (You'll find such a variety of uses for the handy cabinet that you will want as many of them as you can get.)

Lamps are an important part of your TBA program and the Tung-Sol Lamp Merchandiser is just what you need to make more sales—and more happy customers with safely lighted cars.

TUNG-SOL AUTO LAMP MERCHANTISER #100



This is the #100 lamp assortment packed with the
TUNG-SOL merchandiser

10 Type 51	10 Type 1129
20 Type 55	20 Type 1154
30 Type 63	10 Type 1158



TUNG-SOL ELECTRIC INC. Newark 4, N. J.

Sales Offices: Atlanta, Chicago, Columbus, Culver City (Los Angeles), Dallas, Denver, Detroit, Newark, Philadelphia, Seattle.

Tung-Sol makes All-Glass Sealed Beam Lamps, Miniature Lamps, Signal Flashers, Picture Tubes, Radio, TV and Special Purpose Electron Tubes and Semiconductor Products.

BEAR DOWN now on WINTER TUNE-UPS

Win New Friends With
Super-Performance

NIEHOFF
Warranted
IGNITION PARTS



NIEHOFF
NIE-TRON
Super Heavy Duty
COIL

Guaranteed for 100,000 Miles!

Let the weather help you *cash in* on quick-profit winter tune-ups! Super-performance Niehoff Ignition Parts win you friends when parts are needed. This Niehoff NIE-TRON Super Heavy Duty Coil replaces any coil on any car produced in the past 5 years without changing condenser or mounting brackets. Fires an engine with battery down to 2 volts. For all 6 volt systems—cars, buses, trucks, tractors. See the entire Niehoff line.

PUT A CALL IN FOR YOUR JOBBER!

C. E. **NIEHOFF & CO.**

4925 W. LAWRENCE AVE. • CHICAGO 30, ILL.

30th Anniversary Year

Branches:

Boston 34, Mass., 254 Brighton Ave.

Los Angeles 15, Cal., 1330 W. Olympic Blvd.

New York 19, N.Y., 250 W. 54th St.

Question Box

(Continued from page 10)

sult. If the oil is flowing out of the bell housing, it would be worth while to check these seals.

To make sure that you understand the location and function of these seals, we are enclosing photostats from the Plymouth shop manual and we have indicated the location with red pencil. We hope this material will enable you to locate the trouble.

You'll like what you find on page 54.

Rough Mercury Engine

WE HAVE a 1949 Mercury which has a very odd thumping in the engine when it is accelerated. The sound seems like it is in the exhaust. The sound is louder when the timing is set ahead and less when timing is

set back. The compression on seven cylinders is 120, and on one, 90.

We checked the timing gear for proper installation and also gutted the muffler, but the sound is still there. Surely would appreciate your help in locating the trouble. Irwin Motor Company, Columbus, Texas

Answer: It seems to us that you have diagnosed your own trouble when you gave us the compression reading on the cylinders.

On any high compression engine, a difference of 10% in the compression pressure between the various cylinders will usually result in a rough engine and might cause a noise such as you describe. It is, of course, more than 10% off, and probably you will have to remedy this fault before you can eliminate the objectionable noise.

(Continued on page 99)

FOR TROUBLE-FREE WINTER PERFORMANCE

INSTALL

ELGIN QUALITY AUTOMOTIVE REPLACEMENT PARTS

Always ask your Jobber for the tried and proven replacement parts line—ELGIN QUALITY.



**ALWAYS FIT ELGIN QUALITY
PISTONS WITH ELGIN QUALITY
PINS**

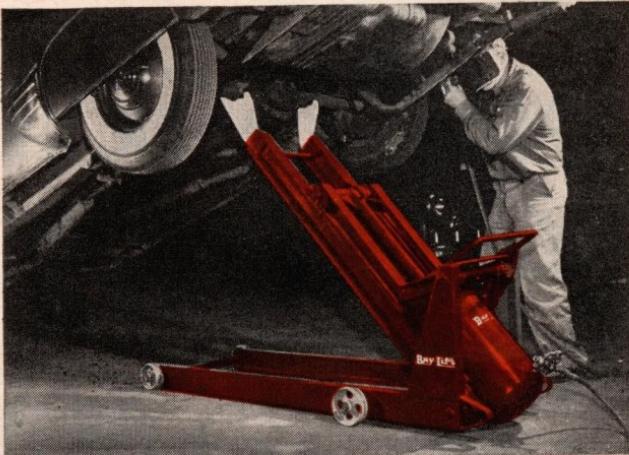
As the first cold snaps of winter affect motor performance you will have an opportunity to show those "late comers" what is required to keep cars functioning properly in freezing weather. New ELGIN QUALITY PISTONS, PINS AND OTHER REPLACEMENT PARTS will be needed.

ELGIN MACHINE WORKS, Inc., ELGIN, ILLINOIS

AIR DOES THE HARD WORK FOR YOU



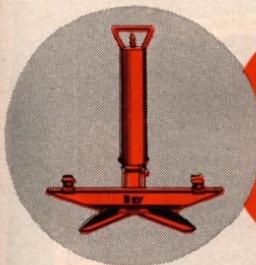
There's a fast, easy way to put yourself in proper working position—it's with



BAY-LIFT

PORTABLE, PNEUMATIC ONE-END LIFT

BAY-LIFT makes every job easier, faster. It does the hard work for you. Not only eliminates backaches but customer headaches as well.



air operated
BAY BUMPER
JACK Drops
wheels clear of
deep fender skirts
32" ht., 3,000 lb.
capacity

- Lifts either end 50" in 10 seconds, holds at any convenient working height. Automatic Safety Lock; 2-Stage Control Valve
- Goes wherever an air hose will reach, on upper floors and isolated stalls
- Does not extend beyond car when in use, stores on end in 27" square
- Easy to handle, durable, service-free
- No installation problems or cost
- Pays for itself 4 times over the first year



BAY MANUFACTURING COMPANY

Box 608, Harbor City, Calif. Warehouses: Boston & Philadelphia
Overseas Division: 276 W. 43rd St., New York 36, New York



See Bay at the ASI convention—Booth D-168

November, 1954

KEEP PROFITS ALIVE IN '55

... get this live-wire line of NEW

CHAMP LUBRICATION & FUEL OIL FILTER REFILLS

Unexcelled in quality and performance, yet competitively priced, your NEW profit opportunity for '55 is here in Filter Refills. Handsomely lithographed cans and eye-appealingly packaged too. Your choice of 125 numbers and 3 filtering media, to serve every filtering need.

Get the full CHAMP story from your CHAMP representative, or write for catalog now.



SEND COUPON TODAY

Champion Laboratories, Inc.
128 Charles Street, Meriden, Conn.

Please send

- New Champ Catalog
- Bulk Pack Deal for fleets
- Representative with full story

Name.....

Firm.....

Address.....

City.....

State.....



Question Box

(Continued from page 96)

Contact Points Have Short Life

WOULD you please give us any information regarding the burning of the stationary point only on a set of breaker points while the movable point seems to wear normally. This seems to be found on the late model Plymouths, especially since 1951. Exchanging condensers for a properly rated one does not seem to help the situation. I. M. Walsh, Osage, Iowa

Answer: In some cases such as you describe with the Plymouth ignition points, it has been traced to a poor ground for the ignition distributor breaker plate. In such cases, the difficulty has been overcome by attaching a flexible ground wire from the breaker plate to the engine block. At the same time, one should make sure that the engine is properly grounded to the car frame.

Packard Ultramatic Noisy

WE HAVE a 1951 Packard with Ultramatic transmission which has a clicking noise most noticeable when shifting from torque conversion to direct drive. This noise appears at moderate speeds, also at times when shifting back to the converter. The noise sounds very much like the hydraulic valve rapidly shuttling back and forth against its stops. The noise starts and stops very abruptly.

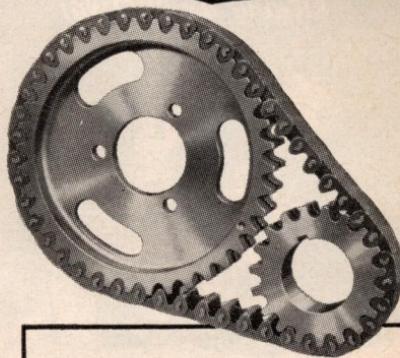
The noise can also be heard at times when driving at 25 or 30 m.p.h. and appears to be an irregular clicking much like fine gravel being thrown against the fender. Otherwise the operation is satisfactory.

I hesitate to disassemble this job

(Continued on page 100)

November, 1954

NOW!



A complete line of **CLOYES TIMING CHAINS**

to supplement the
Cloyes full line of
timing gears and
sprockets

A new line with the same high quality standards as maintained in the Cloyes Gear line. Now you can save time by ordering Cloyes timing chains, timing gears and sprockets all from one source of supply. Individually boxed in familiar red, white and blue carton.

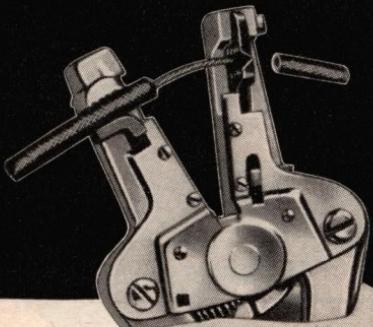
SEE YOUR LOCAL JOBBER

CLOYES GEAR WORKS

17214 ROSELAND, CLEVELAND 12, OHIO

STRIP AUTOMOTIVE & IGNITION WIRE!

★ FASTER
★ WITHOUT CRUSHING,
NICKING OR CUTTING!



MODEL 766-B

WITH THE

Speedex

NET
PRICE
\$4.95
(\$8.25 list)

AUTOMATIC WIRE STRIPPER

Now . . . save at least 90% of your automotive and ignition wire stripping time. New Speedex Automatic Wire Stripper strips both solid and stranded wire. Heavy duty, especially made for automotive shop use. "Delayed return action" prevents crushing. Range of models for every requirement. See your distributor or write direct for information.

Wood Specialty MANUFACTURING CO.
DIVISION OF GENERAL CEMENT MFG. CO.

923 Taylor Avenue

Rockford, Illinois

Question Box

(Continued from page 99)

until I have definitely located the trouble as I realize it will be difficult to locate. Any information you can give me will be appreciated. Culler Auto Service, Massillon, Ohio

Answer: From your description of the difficulty with the Packard Ultra-matic transmission, it could be in any one of several valves:

1. Pump selector valve.
2. Pump check valve.
3. Throttle valve.
4. Pressure modulating valve.
5. Timing valve.
6. Direct drive clutch shift valve.
7. Converter inlet valve.

Of all of these valves we would suspect the pressure modulating valve or the timing valve as being the most likely to cause this trouble.

The latest Shop Kinks are on page 26.

It will, as you say, be difficult to determine exactly where the trouble lies without making a series of tests with a suitable gauge attached at different points in the hydraulic system. It is also possible that the governor is not functioning correctly.

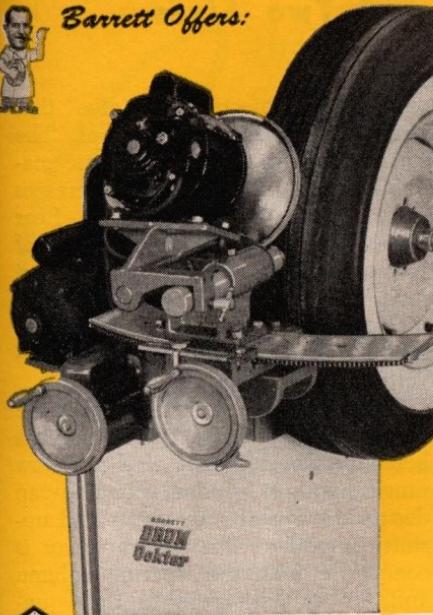
In view of the fact that special equipment and directions are needed to make these tests, we believe it would be desirable to have the work done by a Packard dealer who is equipped with the proper instruments.

The convalescing patient had been long due for a discharge from the hospital. Finally the physician entered his room and said to the young nurse, "Have you kept a chart on his progress?"

"No," blushed the nurse, "but I can show you my diary."



Barrett Offers:



MODEL B-575 TIRE DOKTER

Attaches to the world famous Drum Dokter. Trues and regrooves tires in a matter of minutes. A grinder attachment (available extra) gives that new-look, polished appearance demanded by your customers.

And it's accurate! Only the Barrett B-575 has the new radius cutter that restores the original tire arc over the full width of the tread.

MODEL B-585 ONA-CAR TIRE TRUER

Now you can true tires *on the car or off* the car with this combination portable and stationary tire truer.

And . . . it doesn't tie up shop space either, because you can roll it from service floor to ramp.

The new Barrett portable tire truer means additional profit for car dealers, garages and service stations.

TWO NEW TIRE TRUERS!

A TIRE DOKTER ATTACHMENT
AND
A PORTABLE TIRE TRUER
to help you get your share of this
booming market.



Get it from Your Jobber!

BARRETT EQUIPMENT CO.

21st and Cass • St. Louis 6, Mo.

'55 Chevrolet 8 and Two Sixes

(Continued from page 39)

been credited to modifications which include a re-designed water pump, larger fan and a completely new fuel pump that guarantees more constant fuel pressures.

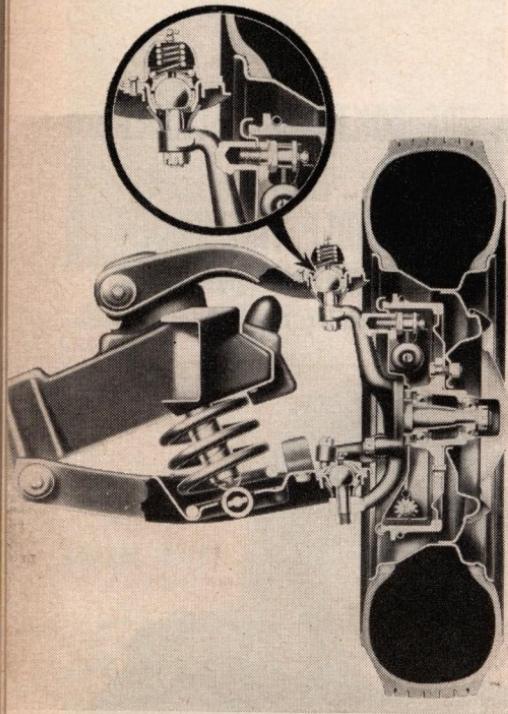


Fig. 4. The spherical mounting of the spindles reduces the number of lubrication points on the front suspension. Note also that the brake anchor is mounted directly in the spindle rather than on a backing plate.

Added riding comfort and roadability, Chevrolet states, are assured by vastly improved suspensions. At the front, a different version of the ball-joint design aids car handling and steering as well as comfort. See Fig. 4. One improvement new to the industry is a control arm geometry that cancels out

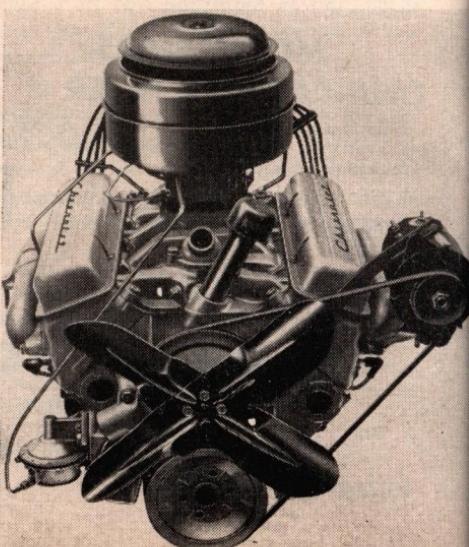
most of the objectionable "dive" that often accompanies brake stops. The suspension also applies a plastic material while the design decreases lubrication points from 16 to 4. Rear suspension improvements include leaf springs nine inches longer to an overall length of 58 inches. For stability, rear spring mounts are outside the frame, after the fashion of the Chevrolet Corvette.

Most significant improvement in the Powerglide automatic transmission has been the development of a new low range band of unique, double-wrap design. Downshifts are softer and upshifts smoother. The selector lever is concentric with the steering column and, as an assistance to those unfamiliar with Powerglide, an illuminated quadrant on the instrument panel tells the position of the selector.

The overdrive unit available on three-speed transmissions may be

(Continued on page 106)

Fig. 5. The clean design of the engine indicates the excellent accessibility of engine accessories. Because of manifold heat, it is suggested that spark plugs be changed from below.



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the

Cutlass

...the famous
4-JET

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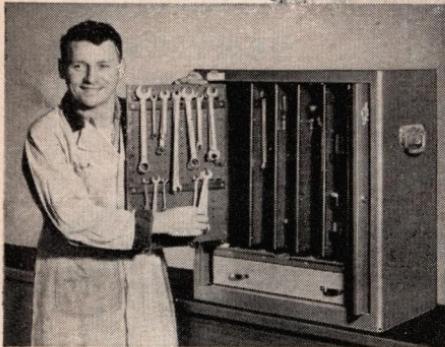
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Inquire from your jobber, or write
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HUOT MANUFACTURING CO.
583 No. Wheeler St., St. Paul 4, Minn.

Chevrolet

(Continued from page 102)

locked out if desired. It involves the substitution of the 3.7:1 ratio rear axle with a high performance 4.11:1 axle in addition to the overdrive mechanism. Chevrolet reports the overdrive reduces engine speed by 22 per cent, amounting to 615 fewer revolutions per mile.

The torque tube drive is replaced by a hotchkiss drive to deliver power more smoothly to the rear wheels and to provide a "flatter" ride in combination with the longer springs.

The brake pedal, suspended this year, gets nylon bushings to eliminate the need for lubrication. The brake master cylinder is now under the hood. Power brakes are optional.

Chevrolet's all-weather air conditioner will be available only with V-8s as an option. All mechanism is located underneath the hood and instrument panel, leaving the luggage compartment clear. Nozzles to expel cool air into the passenger compartment are at ends of the instrument panel.

Shop Kinks

(Continued from page 26)

Curing Hand Brake Rattle

ON MANY cars with the pull out type hand brake a small rattle develops which is very difficult to eliminate. A quick way of curing this rattle is to hook one end of a pull back spring to the rod and the other end to any convenient point under the dash. This same stunt can be used to stop rattles in other rods such as front seat control rods, etc. Eddie Ondras, Galveston, Texas

(Continued on page 110)

Increase your winter profits



Sell safer all-weather driving...sell

MONRO-MATIC SHOCK ABSORBERS

The Shocks the Indianapolis Winners use

Make the winter months your *Extra Profit Months!* Monro-Matic Shock Absorbers, proved by the world's fastest drivers to provide a smoother, safer ride on the race track, will also provide smoother, safer driving for your customers in winter's snow and ice and slush. So, for greater customer satisfaction, easier sales, bigger profits, sell Monro-Matics!



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Get a National Order-matic Service Stock in your shop today! Then you'll have seals you need, when needed. Two stocks: a fast moving front wheel selection for lube stations, and a large front and rear wheel stock for garages and brake shops. The big red all-steel cabinet, plus complete interchange information, is FREE with the stock.

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(If you already have a National Oil Seal Cabinet, your jobber's on the way to install the Order-matic feature FREE!)

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ALWAYS replace it with a NEW one"**



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*Reg. U. S. Pat. Off.

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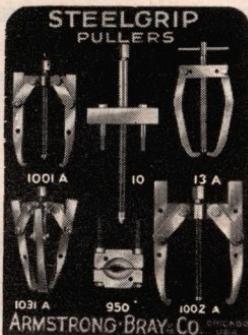
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A
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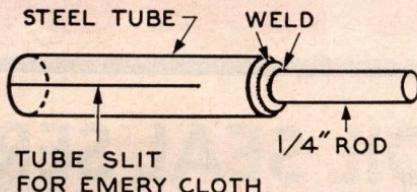


Shop Kinks

(Continued from page 106)

Made to Order Hones

A SMALL hone can be made by using a steel tube about 3/32 of an inch smaller than the hole to be enlarged, slotted part way and welded over a thick washer and a $\frac{1}{4}$ in. rod welded in the washer. A piece of emery cloth inserted in the slit and



wrapped opposite of rotation of electric drill it is to be used in. Extra wraps of emery cloth or paper can be used under the emery cloth to increase the size. Jenkins Repair Shop, Farmington, Iowa.



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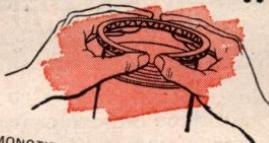
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Postpaid \$2.85

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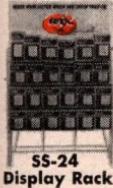
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You sell MORE Oil Filter Cartridges to MORE of your customers when you sell WIX Engineered Filtration. The WIX Line is *complete*. It provides top filtering efficiency for every car and truck that comes into your shop. And WIX provides *both* popular filtering media . . . POROSITE, the pleated paper Filtrant for full-flow systems—WIXITE, the HEVI-DUTY Filtrant for partial-flow systems.

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Designed to meet the demand for a low-priced, light-weight, portable tool capable of removing light surface scratches from automobile windshields . . . also can be used to polish out rubs, fine lines, stains, and discolorations on mirrors or glass of any kind. Weighs only 7 lbs. . . . Perfect balance and properly placed handles makes it possible to work with the windshield right in the car, thus lowering the labor cost and many times the cost of replacing an expensive curved windshield.

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Chrysler

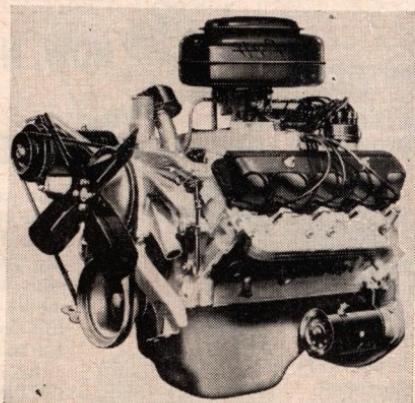
(Continued from page 41)

side the coil springs.

Front wheel track widths have been increased 2½ in. on the Plymouth, 3 in. on the Dodge and almost 4 in. on the De Soto, Chrysler and Imperial.

Chrysler's Coaxial power steering is standard equipment on the Imperial models and optional equipment on all of the other four lines. The design of this integral steering unit is shown in illustration No. 3.

PowerFlite transmissions have been further improved and the control lever is now located on the instrument panel. This change has permitted a more de-



No. 4. All engine accessories and units are readily accessible for service.

sirable location of the transmission linkage.

Brake pedals on all five lines of Chrysler Corporation cars for 1955 are suspended from brackets behind the instrument panel, as are the clutch pedals on all cars not equipped with PowerFlite transmission. The more direct suspended pedal linkage permits the use of lighter return springs, with consequently reduced pedal pressures.

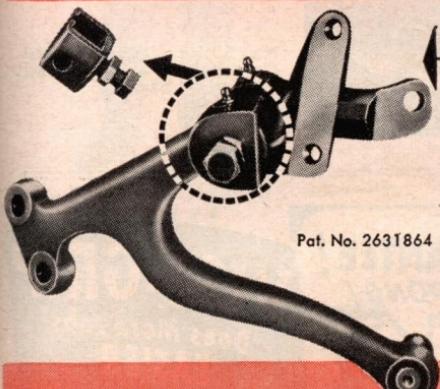
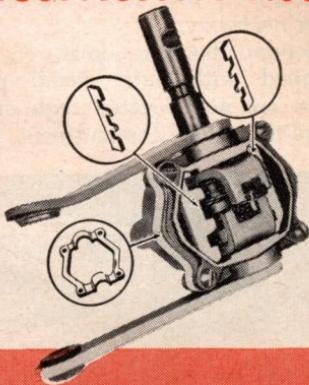
(Continued on page 118)

D&V PROFIT BOOSTERS

D&V GEARSHIFT NEUTRALIZER

- No. 228-N for Chevrolet,
Henry J, Allstate, GMC
½-ton pick-up.

Prevents a car from dropping into wrong gear or locking in gear—gives positive gear selection every time. Quick, simple installation.



Pat. No. 2631864

D&V IDLER ARM ADJUSTER

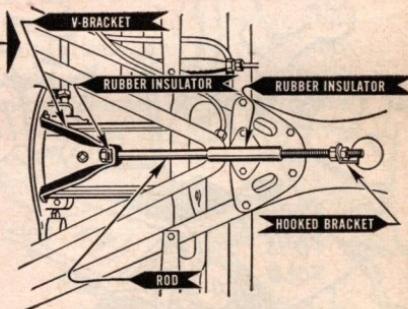
- No. 44-A for Chevrolets
1949 thru '54.

Takes the play out of idler arm assembly. Silences front-end noise. Stops weaving caused by worn idler arm. Eliminates excessive road shock. Simple installation. Just slip the D&V Adjuster on the idler arm and tighten a screw. That's all.

CLUTCH ANTI-CHATTER KITS

- For Chevrolet, Ford and Mercury

The simplest and most effective way to eliminate clutch chatter and grabbing in both forward and reverse. These skillfully-engineered kits contain all necessary parts and instructions for quick, inexpensive installation.



See Your Jobber or Write
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THE D&V MANUFACTURING COMPANY

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Chrysler

(Continued from page 116)

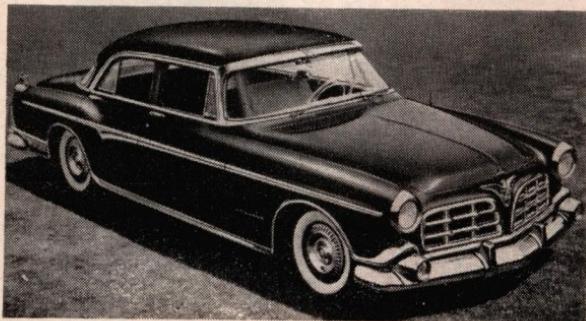
With the pedals suspended, openings for them in the floorboard are no longer necessary.

Vacuum booster units on cars equipped with Safety-Pedal power brakes are now located high on the wall of the engine compartment, as are

the brake master cylinders and stop-light switches in all models. This greatly facilitates the servicing of these parts, and they are also protected from mud and ice in the new higher location.

Extra-wide brake pedals used on all PowerFlite-equipped cars facilitate left-foot braking, for drivers who prefer it. Six-inch pedal travel is retained in cars equipped with power brakes—

this added margin of safety makes it possible to stop the car easily and quickly should power assistance ever be lost.



No. 5. The Custom Imperial Chrysler boasts a 131 in. wheel base.

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-IF ANYTHING SHOULD GO WRONG!

VISE-GRIP
Does More Jobs
EASIER
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ANYONE can do more repair work—faster—with a Vise-Grip! Put it to work and you'll be amazed. Once locked onto work, it pulls, turns, twists, H-O-L-D-S. Quickly adjusts to super-plier or ratchet action. 7" and 10", with or without cutter, only \$1.85 to \$2.60. At your supplier!

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DON'T GUARANTEE THAT CLUTCH JOB

**Until You've Checked
the Motor Mounts**

INSTALL STEELASTIC MOTOR MOUNTS



"No sense in taking any chances. I had a case the other day that back-fired louder'n a firecracker. The fellow came bustin' back wondering what kind of a clutch job we did on his car. And you could'a hit us over the head with a jack—'cause the guy was right. No, the clutch was OK! But the *old* clutch was so bad and noisy, we didn't notice how far gone the mounts were. So we found out the hard way—that you can still have clutch chatter even with a new clutch. Now, we give motor mounts the once-over before that car leaves our garage."

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DEPENDABLE AUTOMOTIVE PARTS SINCE 1918

LEMPCO
AUTOMOTIVE, INC.
Cleveland 27, Ohio



Engines

(Continued from page 43)

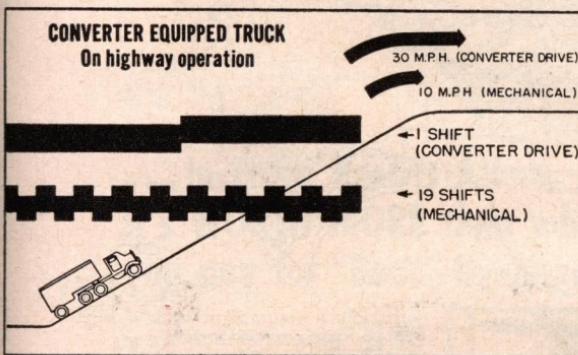
cylinder walls, pistons, etc. And it is, of course, completely obvious that transmissions, rear axles and drive line parts will last much longer.

Increased fuel economy then comes as a bonus on top of the other savings. Many of us were inclined to feel that

there would be some sacrifice of fuel economy where automatics were fitted to heavy vehicles. Not so. Just the reverse is true.

It is also surprising—to us at least—that the engine revolutions per mile are reduced. See Fig. 3. One means by which this is accomplished is indicated in Fig. 4. Other indications are found in items A, B, D, F and K.

Seems like a few (very few) years from now it will be almost impossible to sell a truck or bus without an automatic transmission. An operator could not afford to do without it!



No one should try to do two things at once, and this includes women who put on weight and slacks at the same time.

Mr. Mechanic!

you need this
BLUE BIRD Battery
service kit . . .

for quick and efficient battery servicing. Three popular BLUE BIRD battery tools in durable leatherette case. Compact enough to carry in your pocket. YOURS FOR THE COST OF THE TOOLS.



A MUST for every Garage, Service Station & Battery Shop



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1573-1575 NIAGARA ST. BUFFALO 13, N. Y.

Established 1899—Manufacturing Fine Quality Tools For Over 50 Years

See your jobber
or write.

POWERFLITE Transmission Service

(Continued from page 47)

creases. As car speed decreases, the transmission will automatically down-shift when a predetermined speed is reached. This transmission will also down-shift automatically for passing acceleration if the accelerator is pressed

to the floor board.

The operation of the various hydraulic circuits is shown in Figs. 2 and 3.

Service adjustments will be covered in subsequent parts of this series.

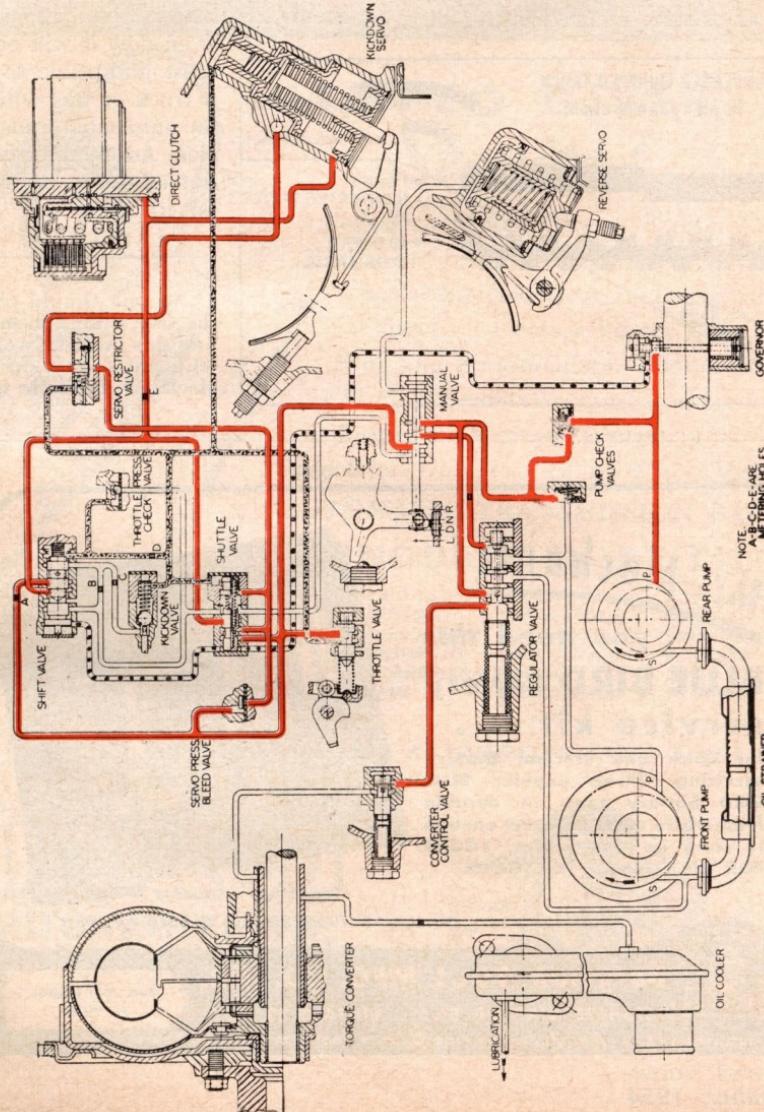
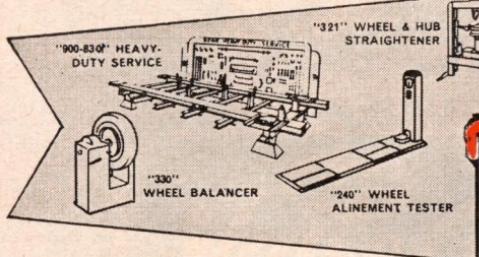


Fig. 3. In direct the pressure is guided to the clutch and the band is released by the pressure in the larger servo chamber.

THE SATURDAY EVENING
the Post Advertised
"Bear" Sign...



...in Extra Profits Alone,
 it's WORTH MORE than what
 you pay for "Bear" Equipment!

When you compare wheel alignment and balancing service equipment, "Bear" wins out in precision, speed, quality . . . and don't overlook the "Bear" Sign! It stands alone, when it comes to making money and bringing in business. No other sign is so powerfully advertised in the POST. No other safety service sign is displayed by as many shops, coast-to-coast. No other sign commands such public confidence . . . people trust in work turned out by "Bear" Equipment. They LOOK for the "Bear" Sign. Purchase of "Bear" Equipment entitles you to put up "Bear" Signs.

"Bear" Signs are available in a wide variety of styles:



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 FREE "BEAR" CATALOG . . . brings you 48 pages of Money Making, Pay-out-of-Profit Safety Service Equipment and how to cash in on the famous "Bear" Sign. Mail this coupon to: Bear Mfg. Co., Dept. M-19, Rock Island, Illinois. Please write name and address in margin.

Pit Stop

(Continued from page 45)

returning in the service truck.

"Where'd the sleek new model come from," asked Spike.

"This," said Mac grinning, "belongs to a famous race car driver."

"No kiddin'" Spike exclaimed. "You mean maybe Sam Hanks or Billy Vukovich owns this? Whew!" he whistled.

"Well I didn't say that," answered Mac. "You didn't let me finish. This guy wasn't at Indy last year. In fact for quite a few years."

"Barney Oldfield!" exclaimed Jimmy.

"Wrong again," said Mac, "and besides, Barney Oldfield's dead now. And it isn't Ralph DePalma either," he said to Spike.

"Who is it, then?" asked Spike.

"A fellow named Jack Barnes," replied Mac. "Had a long career, not spectacular, but he managed to cop one once in awhile. I used to watch him out at the old fair grounds back just before World War I."

"Well I'll be," said Spike.

"What's his trouble," asked Jimmy.

"It cuts out on him at 95 miles an hour," answered Mac.

"You're kiddin'," said Spike very soberly.

"A little," laughed Mac. "It cuts out all right, but at 45, not 95!"

"That's more like it!" said Spike. "What's it seem to be?"

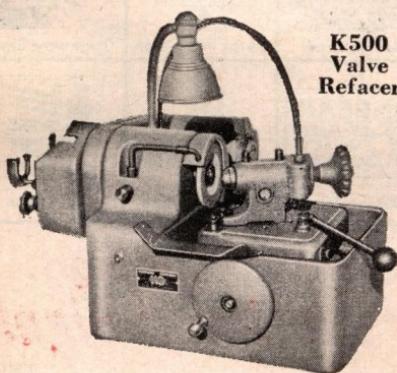
(Continued on page 126)

Mother was helping her son with his homework and asked, "How much are 7 and 4?"

"Twelve," said the son.

"Not bad for a little shaver," said his dad, "he only missed it by 2."

Leaders in Engineering Design Of Valve Shop Equipment For Over Thirty Years



Exclusive Features . . .

Built for right-handed mechanics.

"V"-type way construction, same as you will find on industrial type precision grinding equipment.

Automatic compensation for wear. Design eliminates manual adjustments for wear (except "V" belt tension).

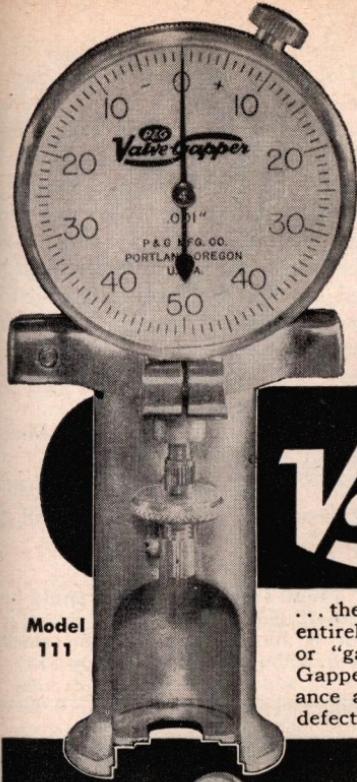
Positive stop setting for angle face with -1° feature. Eliminates possibility of human error. Accurate face angle is provided—no guess work.

Coolant tank and system easily maintained and construction designed to assure residue free coolant back to point of grind.

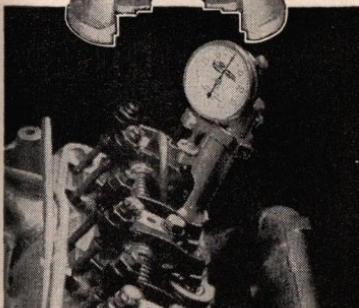


K. O. LEE COMPANY, ABERDEEN, SOUTH DAKOTA

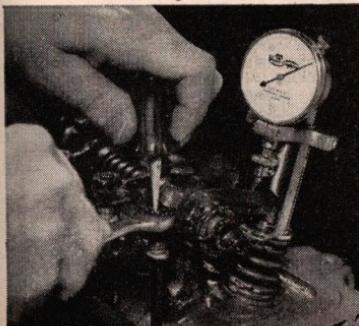
WET VALVE REFACTERS . VALVE SEAT GRINDER SETS . STUD WRENCHES
VALVE SEAT INSERTS . RESEATER SETS . ELECTRIC DRILLS . SANDERS
ROD ALIGNERS . POLISHERS . HAND GRINDER SETS . REAMER DRIVES



Model
111



Valve-Gapper in position on 1954 V-8 Ford Engine.



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"Close Enough..."**

**Set it
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IN HALF THE TIME

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...the new precision instrument that utilizes an entirely new principle in adjusting valve clearance, or "gap" on valve-in-head engines. The Valve-Gapper assures *micrometer accurate* valve clearance adjustment and *instant* location of noisy or defective hydraulic lifters.

- Reduce Valve Adjustment Time approximately 50 per cent!
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- The VALVE-GAPPER is Fast, Easy to Use—both hands are FREE to make adjustments while dial indicator registers exact setting.
- Use the VALVE-GAPPER for instant location of defective hydraulic lifters.
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MODEL 201—FOR GM DIESEL ENGINES

Enables mechanics, owners, operators to—
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FIRM NAME _____

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ADDRESS _____

CITY _____ ZONE _____ STATE _____

ENGINES SERVICED _____

MY JOBBER IS _____

Pit Stop

(Continued from page 124)

"I was just going to check it out and see," replied Mac.

With all the leads hooked up, the ignition checked out 100%. The fuel system was a different matter. Over a certain speed, the fuel just about ceased to flow from the fuel pump and the engine cut out until the rpm's dropped.

"Kinda looks like maybe a bum pump," put in Spike.

"Maybe," said Mac, "but I doubt it. A pump usually works just the opposite. It won't pump enough fuel unless you get the engine revved up. I could be wrong."

"At any rate," said Spike, "we'll have to pull it for inspection."

"This pump looks new to me as it is," said Mac. If the pump checks out

100%, then it's going to be an old friend of ours back. We've had these before."

On the bench, nothing could be found faulty with the pump, so Mac turned to Spike and Jimmy and said, "whoever names it first pays for the coffee."

"The push rod is probably bent," blurted out Spike in his excitement to be first, realizing later that it was costing him something.

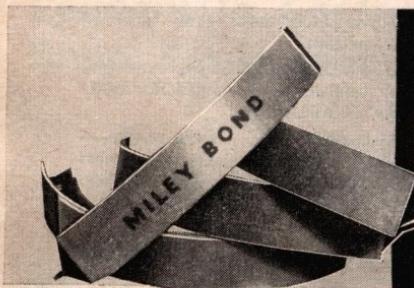
"Boy," said Jimmy, "that coffee is going to taste mighty good."

"You'd better dig deep," said Mac, "I ordered my thermos jug filled!"

"Well I'll be," began Spike, blushing with anger. "Trickery. That's all it was."

"If a man smashed a clock, could he be accused of killing time?"

"Not if he could prove the clock struck first."



Why MILEY Quality Bonded Shoes give Safety • Satisfaction

Bonding a brake shoe is a *manufacturing job*—and Miley can do it easier, faster, more efficiently at a greater profit for you. *Here's why:*

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Complaints about rust . . .
Connections that bust?
Here's the hose clamp
You can always trust.



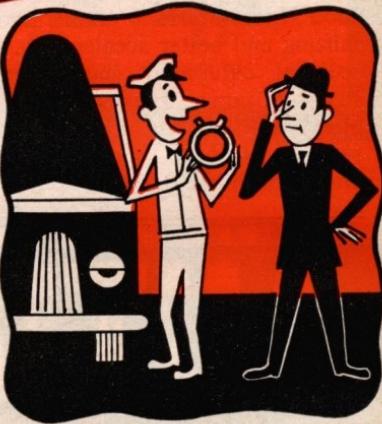
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at no extra cost!

For prompt service, order a supply of Corbin Self-Tightening Hose Clamps through your jobber today. Available in all sizes from $\frac{3}{8}$ " to $2\frac{5}{8}$ " O.D. Corbin Hose Clamp Div., The American Hardware Corporation, New Britain, Connecticut.



New V-8 For '55 Pontiac

(Continued from page 49)

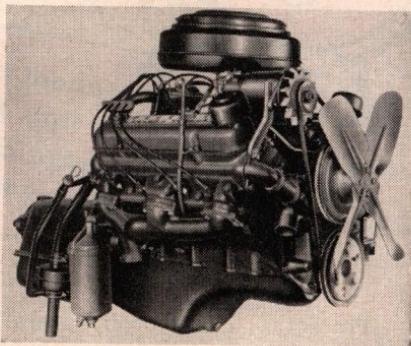
vapor lock. The combustion chambers are machined all over for close control of volume.

The suspension system has been altered with the rear springs mounted farther apart and parallel with the center line of the chassis. The king pins of the front suspension are now vertical, which combined with a recirculating ball type steering gear provides easy steering.

Either Synchro-Mesh or Hydraulic transmissions may be had. Several changes have been made in the 1955 Hydra-Matic to obtain smoother shifting and better acceleration. Other optional equipment includes power steering, power brakes and a combined heating and air conditioning system which is mounted entirely under the hood.

The electrical system on the 1955 Pontiac utilizes 12 volts.

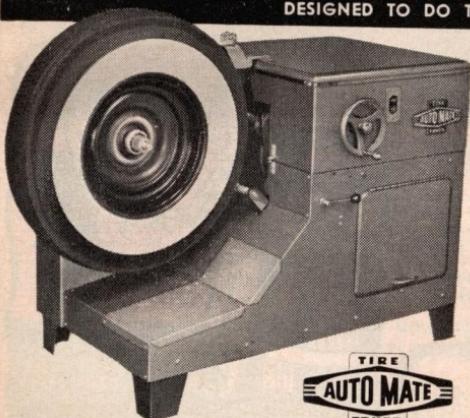
The overall height of the car is now 2 3/4 in. lower and the hood has been lowered 3 3/4 in.



The excellent accessibility for service purposes is obvious from this illustration of the new Pontiac Strato-Streak V-8 engine.

AUTO-MATE

DESIGNED TO DO THE BEST JOB OF TRUEING IN LESS TIME!



Compact, rugged and dependable, the Auto-Mate has been thoroughly tested. It is a completely self contained unit with built in dust collector.

Auto-Mate employs a new and different principle—automatically shapes tire tread to the proper contour. It will deliver long trouble free service, building your profits and customer repeat business.

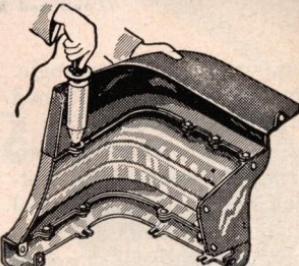
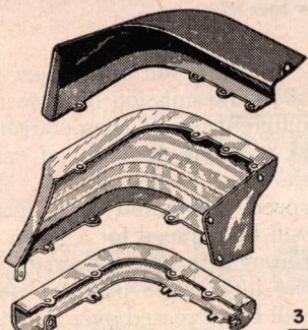
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Stoner Mfg. Corp. is an established manufacturer of 21 years experience. Dun & Bradstreet rating AAAI

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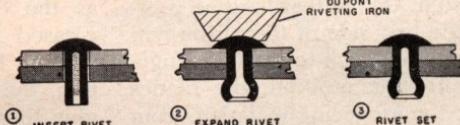
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SEE YOUR AUTOMOTIVE JOBBER OR WRITE STONER MFG. CORP. FOR FULL INFORMATION!



3 PIECE GRILLE ASSEMBLY

BLUEPRINT
FOR SIMPLIFIED
FASTENING



ASSEMBLE GRILLES 50% FASTER WITH DU PONT INDUSTRIAL RIVETS

Tough fastening becomes quick and easy with Du Pont Industrial Explosive Rivets. This 3-piece assembly job's a good example. Here's all it takes:

- A. Simply align the 3 sections.
- B. Insert Industrial Rivets.
- C. Apply heated iron to Rivet heads.

Rivets expand in as little as $\frac{1}{2}$ second (see above sketch). Smooth, barrel-shaped heads form on shop ends, locking parts in position . . . eliminating need for filing, grinding or buffing. Takes only half the usual time.

Imagine—almost any fastening job you can name—and *all* this simple! Most operators set 20 to 25 Rivets a minute in grilles, doors, running boards, fenders and interior panels, with neat, factory-like results every time. It's strictly a *one-man* operation, as you work *only* from Rivets' head side . . . no bucking bar or special tools required. And you get fastening that can take it. Strong, one-piece Industrial Rivets

won't vibrate loose or break off, producing sturdy sections ready for rough roads.

No matter how tough your present fastening may be—Du Pont Industrial Explosive Rivets can save you time and effort. A new, 32-page manual highlights many of the intricate jobs these fasteners are simplifying. For your free copy, contact your jobber or write: E. I. du Pont de Nemours & Co. (Inc.), Explosives Dept., Wilmington 98, Delaware.

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INDUSTRIAL EXPLOSIVE RIVETS
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Better Things for Better Living . . . through Chemistry

1955 Buick

(Continued from page 51)

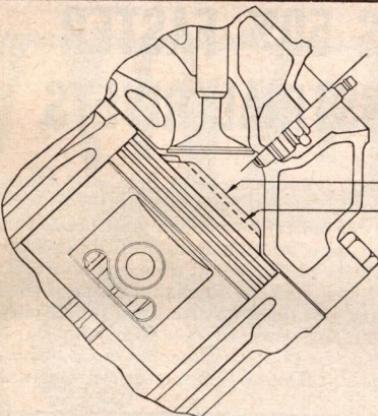
blades will be positioned in low angle.

High stator blade angle is obtained after full throttle is reached. This is accomplished by incorporating overtravel in the control mechanism. Throttle linkage will then move the control valve in the high accumulator body. Movement of the valve will close off high clutch pressure and will exhaust the oil from the front side of the stator piston. Converter charging pressure on the rear side of the piston will then move the piston to the high angle position. In this position, the blades are shifted approximately 75 deg. from the low angle position and torque multiplication of the converter is increased.

As the result of this new design the 1955 transmission has two completely different sets of characteristics, whereas previous designs had only one. In the low angle position, the engine speed, compared with former years will be reduced for a given car speed, throughout the conversion range. In the high angle position, performance will be increased over the 1954 design as the converter torque ratio is increased from 2.45 to 1 (in 1954) to 2.50 to 1 in the new design. In addition, the transmission permits the engine to rev up to the speed where it develops near maximum torque.

Service adjustments will be easier because one adjusting link is located outside the transmission and one link is located in the valve body, being easily accessible by removing the pan.

In addition to the changes designed to improve the torque characteristics, other new features are provided to increase service life. The high clutch is supported on a needle bearing instead of the bronze bushing used previously. This reduces the tendency to scuff. Also lubricating oil enters the high clutch assembly through the rear



COMPRESSION RATIO		
SERIES	1954	1955
50-60-70 DYNAFLOW	8.5-1	9.0-1
50-60 SYNCHROMESH	8.0-1	8.4-1
40 DYNAFLOW	8.1-1	8.4-1
40 SYNCHROMESH	7.2-1	7.5-1

(Continued on page 132)

In addition to increased compression ratio, horsepower is increased by larger carburetors and manifolds.

New 5U

ELECTRIC

most powerful $\frac{1}{2}$ " drive

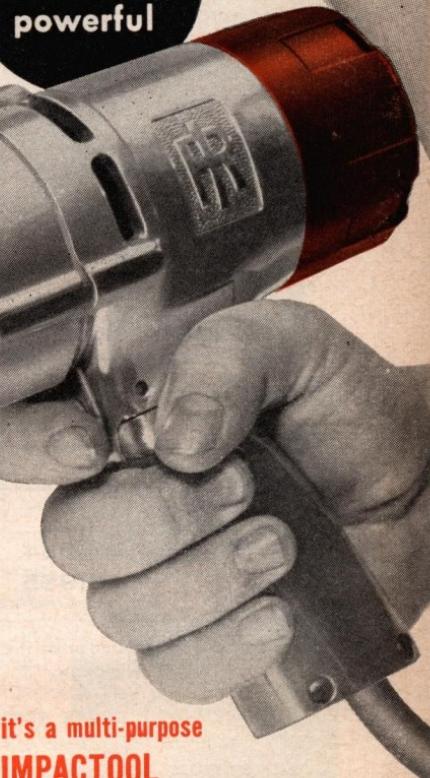
only $6\frac{1}{4}$ pounds

25%
more
powerful

this is
POWERFUL NEWS
for mechanics
who want
more
power!

ROTARY ELECTRIC
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- With 25% more power... you can easily handle nut running jobs on all the modern, high compression, high torque engines.
- Extra power tightens nuts and bolts faster—and tighter.
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- New 5U is lighter in weight, and easier to use, in spite of increased power.
- Extra reserve power to handle all but the largest nuts and bolts on cars and trucks.



it's a multi-purpose
IMPACTOOL

... quickly applied standard attachments permit faster, easier drilling, screw driving, reaming, tapping, wire brushing, hole sawing, etc.

increased power

... is the answer to tougher nut running jobs on cars and trucks.

The record for dependability of Ingersoll-Rand air and electric Impactools makes them the first choice of mechanics everywhere. Call your I-R Jobber, he will be glad to arrange an on-the-job demonstration of the powerful new 5U in your own shop.

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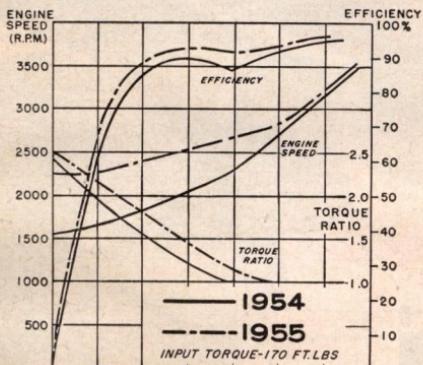
1955 Buick

(Continued from page 130)

of the transmission input shaft rather than from the reaction shaft. Also the flange thickness of the converter pump has been greatly increased.

As noted previously, the output of both engines has been stepped up. Fifteen horsepower have been added to the series 40 engine, while the horsepower of the 50 engine has been raised 18 and the 60 and 70 engines 20 hp.

COMPARISON 1954 TWIN-TURBINE CONVERTER VS 1955 VARIABLE PITCH CONVERTER



Comparison of the efficiency of the 1954 and 1955 Dynaflow.

This increased power results from larger carburetors and manifolds, larger exhaust valves, increased exhaust valve lift, a new camshaft and higher compression ratio. In addition, piston friction losses have been reduced by adding slots to separate the piston skirts from the heavy pin boss section. To carry this increased load, main bearing caps have been increased in height from 1.835 in. to 2.00 in. Also connecting rod bearings are Moraine 400 aluminum alloy.

On this 322 cu. in. engine as used with Dynaflow equipped cars, the compression ratio is now 9 to 1, while on Synchromesh engines it is 8.5 to 1, the difference being secured through the use of head gaskets of different thicknesses. On the series 40 engine, the difference in compression ratio is obtained by altering the pistons.

Among the safety items found on the new cars are new brake lining with improved frictional characteristics, a redesigned power brake cylinder, and tubeless tires which can be balanced to a high degree of accuracy. Power steering is now standard equipment on the series 50 and 70, and optional equipment on the 40 and 60.

Don't miss Profit Making Products—starting on page 90.

LOTS OF SPARK

A recent shipment of Auto-Lite Spark Plugs made to the Electric Equipment Co. of Los Angeles filled a railroad box car. An Auto-Lite official did some figuring and came up with these results:

The box car of plugs would supply every car owner in a city of 120,000 to 130,000 with a new set.

The lifetime of these plugs would be expected to give more than six trillion sparks.

The combined mileage of cars using the plugs would be able to travel to the planet Jupiter and back, with a few side trips to the Moon.

The amount of gasoline expected to be ignited by these plugs would equal the flow of Niagara Falls for an hour.

That's what a car load of spark plugs could do.

ANOTHER GREAT AUTOMATIC TRANSMISSION TOOL

New Britain 6 in 1 SEAL DRIVER



SEAL DRIVER SET
COMPLETE - SD-6

OTHER MONEY MAKING
NEW BRITAIN TOOLS FOR
AUTOMATIC TRANSMISSIONS

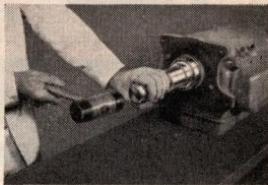


This one Tool combination SAVES money for you — replaces more than a dozen individual tools costing many times more. For Hydra-matic, Dynaflow, Powerglide, Fordomatic and Mercomatic, this money-making new Tool by New Britain speeds automatic transmission servicing for you. The rugged, top quality alloy steel Seal Driver and 6 Adapters, with rust-proof, Parkerized finish, give you the right combination for installing both front and rear oil seals FAST and EASY. Permits installation of seal without removing pump from transmission. Proper fit prevents the seal distortion that causes oil leakage.

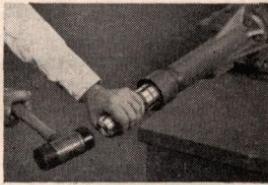
Add to your profits with this new 6-in-1 Seal Driver and other New Britain Automatic Transmission Tools. Call your Jobber today!



Replacing Front Seal
(Oil Pump Removed)



Replacing Hydra-matic
Front Pump Oil Seal



Replacing Hydra-matic
Rear Oil Seal

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GREATER STRENGTH • BETTER FIT
THE NEW BRITAIN MACHINE CO. • NEW BRITAIN, CONN.

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FOR PERFECT SOLDERING IN LESS TIME



use Rubyfluid soldering flux.
Fast acting . . . easy to
use . . . melts our freely
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Ask your jobber or write
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Soon pays for itself!

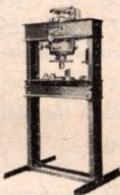


BALDOR Battery Charger No. F-12 charges 1 to 12 batteries (6-volt or 12-volt) at 2 to 6 amps. Has four clip-on terminals for coarse adjustment of charging rate, and a 7-point fine control dial. GUARANTEED 2 YRS. Price, less bulb, \$52.00.

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DAKE HYDRAULIC PRESSES

Keep the profit on press work by doing it in your shop. Why lose it by sending work out, or working with out-of-date equipment? Dake Hydraulic Presses are hand, air or electrically operated—in capacities of 25 to 125 tons and up.



ARBOR PRESSES for Bench Work

You can save time on dozens of small pressing and forcing jobs every day with a Dake Arbor Press. Capacities 1 to 25 tons.

Send for Catalog 129—
or ask your jobber.



DAKE ENGINE CO.

610 Seventh Street

Grand Haven, Mich.

Studebaker

(Continued from page 68)

automatically through the two low ranges and then lock into direct drive. An automatic kick-down at speeds up to 70 m.p.h. shifts the automatic drive to the intermediate gear range when an additional surge of power is needed.

Power brakes are available as optional equipment at extra cost on all models. The truck line for 1955 features four engines with horsepower ranging from 92 in the Six to 175 in the V-8. Automatic drive transmissions with the direct drive in high gear are available as an extra-cost option on the most popular $\frac{1}{2}$ and $\frac{3}{4}$ ton models. Five speed transmissions with either direct drive or overdrive also are available as options in heavier models.

The 1955 series trucks range in gross vehicle weight from 4600 lbs. to 16,000 lbs. Wheel bases range from the 112 in. pickup chassis to the 212 in. heavy duty chassis.



"Besides, your opportunities are much better here."

Now... a NEW Johns-Manville
Brake Lining Development
for Passenger Cars with
Power Brakes



*PowerBilt for Power Brakes

Johns-Manville

P.B.* Sets

Provide longer life, smooth performance, safer stops

Engineered especially for passenger car power brake systems, Johns-Manville P B sets now make it possible for car owners to enjoy *all* the many benefits of power braking.

These heavy duty linings offer greater resistance to wear, smooth performance and *more* dependable stops. They provide maximum durability and stable friction under severe operating conditions. Because they wear slowly and evenly, P B relining jobs seldom need break-in adjustments.

In manufacturing P B Brake

Lining a composition of select grades of asbestos fibre and non-scoring brass particles is precision molded under high compression. The result is a hard, dense brake lining which has no equal for use with power brakes. They are not sensitive to temperature changes or moisture conditions.

Your local Johns-Manville Distributor carries P B sets. Ask him about this important development which brings you premium quality at competitive prices or write Johns-Manville, Box 60, New York 16, N. Y.



JOHNS-MANVILLE *asbestos* BRAKE LININGS

Champion's New Plug

(Continued from page 74)

cleaning and servicing much easier.

Of vital importance in the field, too, is another design feature of the new spark plug—installation without the conventional gasket.

In an effort to provide more accurate positioning of the spark plug gap in the combustion chamber, particularly desirable in high-power engines, Champion engineers developed an entirely new method of seating the spark plug in the engine. In normal installation, the conventional spark plug gasket is compressed to half its initial .080" thickness, more or less. This difference in installation torque can result in appreciable variations in spark plug gap location.

The Turbo Action spark plug has a tapered surface which seats directly

without a gasket on the mating surface in the cylinder head, providing a better seal and no variation in gap location. This has several advantages:

1. Proper installation is facilitated. While spark plug manufacturers have long recommended use of torque wrenches, this has become more difficult as the modern design of engines has made the spark plug less accessible. The Turbo Action spark plug can be installed without torque wrenches. A standard socket wrench, with a 6 to 8-inch handle is adequate.

2. Less torque is required for proper seating. Service experience over the years has indicated that the vast majority of mechanics do not install plugs as tightly as the manufacturer recommends. Therefore, the seat angle of the

(Continued on page 138)

COLUMBIAN VISES



A-9086

**...FOR EVERY
AUTOMOTIVE
NEED**

COLUMBIAN

Vises

The Columbian Vise & Mfg. Co.
CLEVELAND 4, OHIO

Sold only through industrial distributors!

CRANKSHAFT TRUING!

Every shop can be equipped to service damaged or worn engine journals. No. 1 crank pin and all other hard-to-get-at journals can be trued to perfect roundness and finish. JOURNALIZING can be performed without previous training by any mechanic.



No costly dismantling of engine or chassis is necessary. Simply remove oil pan and spark plugs, install Journalizer in place of engine bearings and the starter does the work.



Write for 7th edition Journalizer Catalog which contains listing of passenger car, truck, farm tractor and industrial engines up to date, including V-8 models. PRICE CHANGE on Journalizers now in effect; price sheets on request.

POSTMA MANUFACTURING CO.

691 East 18th St. Paterson 1, N. J.

62 61st Place, Long Beach 3, Calif.

Champion's New Plug

(Continued from page 136)

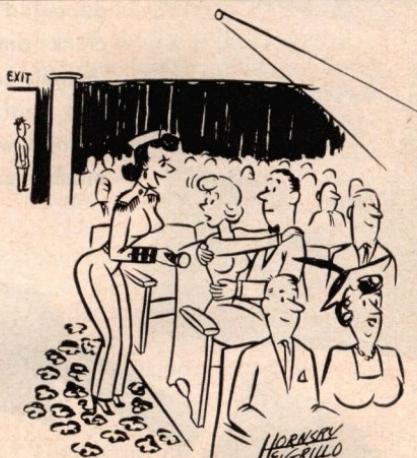
new plug has been carefully calculated to permit proper installation with only 50% of the torque required for conventional plugs of the same size.

3. The spark plug remains tight in the cylinder head during service. With the new seating method, it was found that the torque required to remove the spark plug after engine operation was the same as the initial installation torque.

4. There are no gaskets to lose. Champion sales officials said ample supplies of the new 870 Turbo Action spark plugs for replacement sales are currently being distributed throughout the field, along with catalogue sheets and installation information. Initial installation is on the Ford Thunderbird.

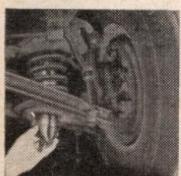
They are confident that the obvious

advantages of the new plug will result in adoption for use in many more new engines and added that ample inventories would be made available for all requirements in the field.



"Here, take the light, Dearie, I'll show you how!"

HOW TO MAKE A DOLLAR A MINUTE



Front AIR LIFTS slip inside any coil springs not loaded with shock absorbers. Rear AIR LIFTS fit in coil springs or come equipped with own coil and fit between leaf spring and frames.

sell and install AIR LIFT pneumatic spring boosters

One experienced man can install a set of front or rear end AIR LIFT units in less than ten minutes. The ready profit from the sale, plus labor charge, will add up to a dollar a minute and then some!

AIR LIFTS are so easy to sell because they are low costs answers to a number of motoring problems. Front AIR LIFTS correct sagging — cushion spring action against swaying on turns, dipping on stops. Rear AIR LIFTS handle overloads up to 1000 pounds for towing trailers, hauling heavy materials.

AIR LIFTS are fast, clean sellers — factory guaranteed to please — and backed by an aggressive promotion program. For prices and full details on this new item see your jobber or write Department 111.

AIR LIFT COMPANY 2330 W. MAIN ST., LANSING, MICH.



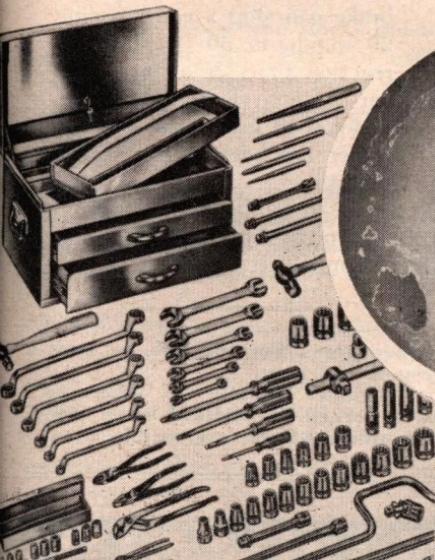
TAPERED SOCKETS

One reason why master mechanics call

DURO-CHROME

"doggone good" tools

Professional mechanics, the world over, prefer Tapered Duro-Chrome Sockets because they go easier into those "hard-to-get-at" places; also, they're stronger, due to hot-broaching and uniform wall thickness, so they stand up longer under hard service. Complete range of most-wanted sizes.



MORE VERSATILE
MORE ENDURING
MORE EFFICIENT
WORLD'S MOST-PREFERRED SOCKETS

Get your Duro-Chrome Pocket-Size Catalog

Ask your jobber for a free copy of the Complete Duro Catalog that slips into your kit or fits your hip pocket; or send 10¢ in coin with coupon below to Duro Metal Products Co.



R-805-MS

DURO METAL PRODUCTS COMPANY

2649 N. Kildare Ave., Chicago 39, Ill.

Please send my copy of the DURO-CHROME "Pocket-Size" Catalog for which I enclose 10¢ in coin to cover costs of postage and handling. Address to me, personally.

My Name _____

Address _____

City _____

Zone _____ State _____

ALSO MAKERS OF NATIONALLY ADVERTISED DURO POWER TOOLS

THE
COMPLETE
TOOL LINE

All built to one Duro-
chrome Standard of Quality

CARRY IT IN
YOUR KIT OR
"ON YOUR HIP"

**INCREASE YOUR SERVICE PROFITS
WITH THE WESTACH AUTO AID**

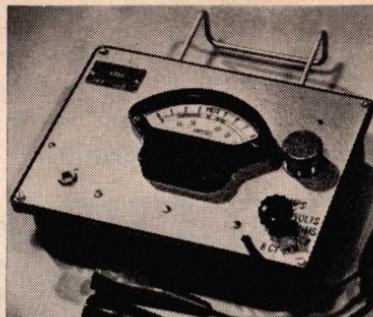
New easy-to-use portable engine analyzer helps you make perfect tune-ups in half the usual time. Tests all electric circuits and accurately registers revolutions-per-minute. The Auto Aid Tests—

- Voltage Regulator
- Carburetor Adjustment
- Coil
- Generator
- Spark Plugs
- Ignition
- Point Spacing
- Condenser
- Lights, Horn
- Timing
- Battery
- Starter

The Auto Aid combines an accurate tachometer, voltmeter, ammeter and ohmmeter in a small, rugged portable case. Model H12 tests both 6 and 12 volt cars. Separate tachometers, either portable or dash mounted, also available.

Write for complete details today.

WESTBERG MFG. CO. 144 S. COOMBS STREET
NAPA, CALIFORNIA



Bad Brakes

(Continued from page 78)

5. When brakes need relining, buy high quality lining and this is insurance for a few extra pennies.

With a very few exceptions, faulty brakes give plenty of warning—provided the driver and shopman recognize and heed the signals.

NOISE—Noisy brakes are screaming for attention. Sometimes the cause is not serious, but sometimes it is.

LOW PEDAL—A brake pedal that goes dangerously close to the floor needs adjusting.

FADE—A brake pedal that sinks slowly towards the floor as you apply pressure is completely

untrustworthy now and the driver may soon find no brakes at all.

SLOW STOPPING—An average brake can stop a car traveling 20 m.p.h. in 40 ft. including reaction time. If a customer's car is not at least average, you'll soon learn that the customer has become an average statistic.

Last year faulty brakes were not fixed in time by 44,000 women—nor by 282,000 men drivers.

Manager: "For this job we want a responsible man."

Mechanic: "That's me. Wherever I have worked, if anything went wrong, they told me I was responsible."

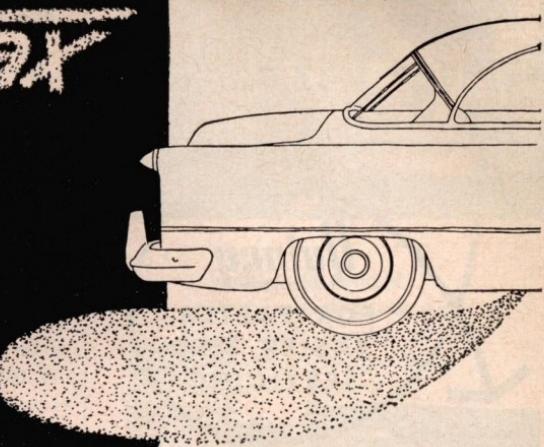
Insist on VELLUMOID!

YOU CAN'T GO WRONG

If you use VELLUMOID gaskets on all oil, water and gasoline connections. They are the standard of top quality now . . . as they have been for nearly half a century.

THE VELLUMOID COMPANY • Worcester

Sandtrax sells on sight.



. . . to any driver who clocks much mileage in winter weather, where snow and ice is the rule. This new exhaust power-spread road sander for passenger cars, trucks and buses is the only one of its kind on the market. Here is a "low cost—high profit" item for you with a tremendous sales potential.

Not to be confused with gravity-type sanders that drop sand *ahead* of the wheels, SANDTRAX shoots a steady spray of sand *under* the rear wheels to the point of contact between tire and road, affording traction for the driver to start or stop, on ice, snow or slippery road surfaces of any kind.

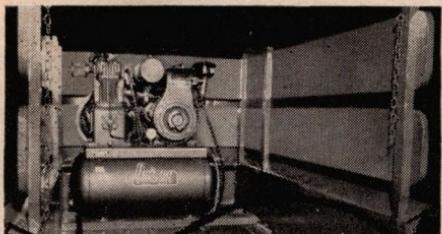
SANDTRAX has been road tested over hundreds of thousands of miles under extreme weather conditions and has proved its merit in every circumstance that might ever be encountered. It cannot freeze up and become inoperable. Powered by engine exhaust and controlled by brake, (or push button on dash board or steering wheel,) and accelerator pedals, SANDTRAX is easily and quickly installed. No special equipment is needed. It comprises a sand hopper that sets in the back of the trunk, a control valve that fits over the end of the exhaust pipe and connects to the stop light, and flexible metal spray arms that fasten under the chassis. Installation requires less than one hour. It is readily transferable from one car to another.

JOBBER FRANCHISES
still available in some
territories outside
New England.

For complete information on how you can realize big profits from the sale and installation of SANDTRAX, write us today.

AUTOMOTIVE SANDTRAX, INC.

20 PEMBERTON SQUARE
BOSTON 8, MASSACHUSETTS



Quincy
COMPRESSORS
**FOR FASTER,
EASIER TIRE
SERVICING**

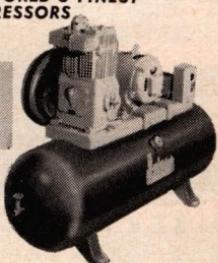


The new Quincy Model HT-325 mounts in your tire servicing truck . . . provides compressed air for tire inflating, operation of pneumatic wrenches and other tools. On the road, tire servicing is easier and faster. The Quincy HT-325 meets all your requirements. A manifold provides reduced or full tank pressure. Tank pressure is automatically maintained from 165 to 175 p.s.i. by a constant speed unloader. The gasoline engine is started with a pull rope or an electric starter powered by the truck battery. There is a Quincy Compressor for all automotive applications.

Write Dept. M-39, Quincy Compressor Co., Quincy, Illinois, for complete details.

**MAKERS OF THE WORLD'S FINEST
AIR COMPRESSORS**

**QUINCY
COMPRESSOR CO.
QUINCY, ILLINOIS**



Muskegon Rings

(Continued from page 82)

It was disclosed that new machinery is being installed to step up present production facilities and that samples of these iron powder rings are available to engine builders.

Basic techniques of the powdered metal process offer wide scope in the selection of materials for rings and great accuracy in grading and mixing. The natural pores in powdered metal serve as anti-scuff insurance, according to Muskegon. They also claim increased wearability and bearing properties. Powdered metal has long been used in bearings and the average car now contains about 50 powdered parts.

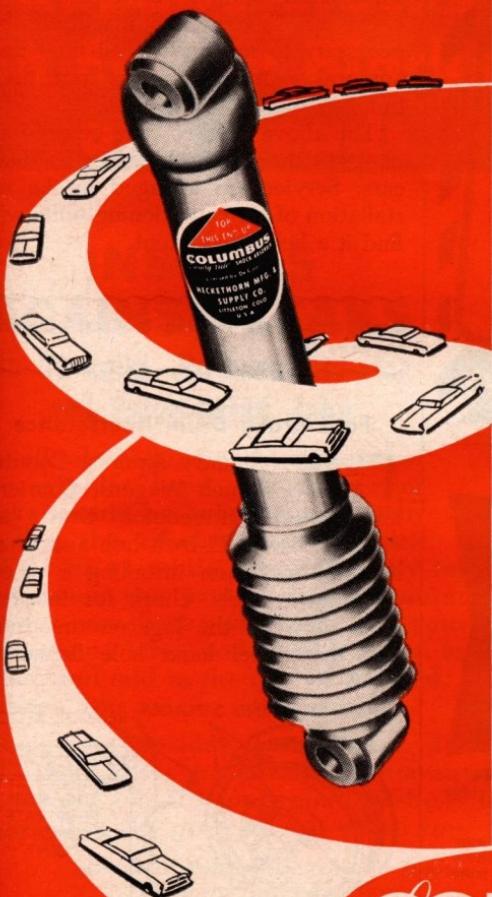
In producing the rings, Muskegon uses a pure iron powder, screened to a controlled particle size and then hopper fed to a hydraulic press. After pressing, the briquette is then put through the sintering process where it is heated to a fusing point but never reaches the melting point.



"Jimmy wants to get married. He says he's tired of dressing up every weekend."

**RIGHT IN THE MIDDLE
ON PRICE...**

and way out front in



Performance!

Columbus will outhold,
outperform and outlast every
known shock absorber of
conventional design—both
normal and heavy duty.

Yet, Columbus costs less
than the cheapest conventional
"heavy" on the market.

Columbus is actually two
shocks in one, serving both
standard and heavy duty
driving needs in a single unit...
adjusting automatically to
every road and ride
requirement! (No hand
adjustment necessary.)

Controlled comfort on
smooth roads, dips and at
slower speeds! Maximum safety
and control on rough roads,
sharp curves and at high
speeds.

Columbus—the only every
duty shock absorber on the
market—today's greatest value
in shock absorbers.

COLUMBUS
Luxury-ride SHOCK ABSORBER

LICENSED BY DE CARBON



HECKETHORN MANUFACTURING AND SUPPLY CO., LITTLETON, COLO.



... For A
Smoother Ride
... For More Profits
**SELL D&T COIL SPRING
STABILIZERS**

MOLDED
OF HIGH
QUALITY
RUBBER



ALL D&T
STABILIZERS
ARE LICENSED UNDER PAT. NO. 2,230,340

TURNER Manufacturing Co.
KOKOMO, INDIANA, U.S.A.

SEE YOUR JOBBER OR
WRITE FOR LITERATURE



Here's the best Ridge Reamer **AMMCO**

NO. 2100 RANGE 2-9/16" to 5"



- Long-life carbide cutter removes ridge in a few turns.
- Ridge removal can be checked without removing tool from cylinder.
- Cuts most steel sleeves.
- Chamfering jaw available.

ONLY \$10.15

See your Ammco Jobber

AMMCO TOOLS, INC. North Chicago, Illinois

Factory Hints

(Continued from page 70)

3. Remove generator drive belt.
4. Remove all radiator and water pump attaching screws.
5. Lift radiator and water pump out as an assembly.

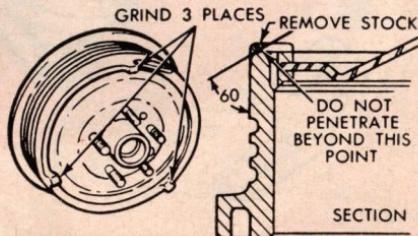
On cars so equipped, it will also be necessary to remove the oil filter and/or power steering pumps from their brackets.

The above method may be used on all 1949 through 1953 series Cadillac cars. Servicemen engaged in the installation of air conditioning units will find it a helpful shortcut.

Don't miss Profit Making Products—starting on page 90.

Ford Brake Drum Interference

ALL 1954 Country Squires, Country Sedans, Ranch Wagons, Couriers, and Police Interceptor Units are equipped with 11-inch hub and drum assemblies. When installing a wheel on these models, check for interference between the lugs on the drum and the wheel hub hole flange. If



the wheel does not seat flatly against the face of the drum, grind the drum lugs as shown in the illustration.

Note: Be sure not to grind into the corner of the drum.

(Continued on page 146)

Motor Service

MET-L-SEAL

**Quickly
Repairs Cracks
In Engine Blocks
and Heads**

**INSURES
AGAINST LEAKS**
On Re-build, Re-bore, Re-ring
and Valve-Grind Jobs

On all jobs requiring the removal of the cylinder head, the danger of leaks should be guarded against by sealing the cracks with Versnick

MET-L-SEAL while running-in. By taking this precaution you protect yourself automatically against comebacks which eat into your profits. There is no labor cost. And if, when estimating a job, you add in the cost of the seal, as is customary, you are not out a penny.

When you consider that the use of Versnick MET-L-SEAL is practically a guarantee of a watertight job, it is only good business to avail yourself of the protection it offers you.

See Your Automotive Supply Jobber
or Write for Literature



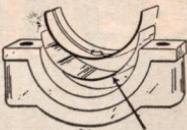
Counter Display Carton

VERSNIK

Versnick Manufacturing Co.
4700 E. Nevada Detroit 34, Mich.

The Most Complete Block Repair Process

It Pays To USE PARAMOUNT TAPERED SHIMS



Assortment of 24 packages gives complete stock for every bearing-insert need.

Sold thru jobbers, or write Nat'l Distributors

Paramount Distributing Co.
1524 Hennepin Ave., Minneapolis 3, Minn.

GET PARTS CLEAN WITH GRAYMILLS **AGITENE**

THE SAFE, ECONOMICAL COLD DEGREASING SOLVENT FOR ALL WASHERS PARTS



A general purpose solvent for removing grease and oil. Used by thousands of shops. Easy on hands. Contains "Tergene" for faster cleaning. SAFE. Listed by UL Lab. Non toxic. No rinse. Also 30 & 5 gal.

SAVE MONEY TOO, 55 GAL. DRUM \$49.50

GRAYMILLS CORP., 3723 N. Lincoln Ave., Chicago 13

FREE TRIAL OFFER! Amazing New Tools



SPEED-HED RATCHETING OPEN-END WRENCH

Sensational, new Speed-Hed fits tight places where socket will not fit. Ratches freely. Grips tight. Fully guaranteed. Box wrench of same size on other end. Set of Five (3/8", 7/16", 1/2", 9/16"). \$6.00 Prepaid

CAKED-ON CARBON REMOVER

Sensational new faster and cleaner way to remove caked-on carbon from engine blocks, heads, valves, valve-ports. Works with 1/4" portable drill. Outlasts ten wire brushes. Set of Two Roto Tools: \$5.00 Prepaid



BRAKE SPRING PLIERS For removing and replacing anti-rattle hold-down spring. Easy, one-hand operation. Avoids cutting fingers and other injuries. Saves time; makes hard job easy. Chrome plated. Fully guaranteed. \$3.00 Prepaid

30 DAYS FREE TRIAL Show this ad to your dealer; or, enclose check, money-order or currency for any or all three offers. If not fully satisfied, return tools for prompt refund of purchase price, plus your cost of returning if you send direct to factory.

See your jobber or write direct to factory

THORSEN MANUFACTURING CO.
5321 HORTON ST. OAKLAND 8, CALIFORNIA

Factory Hints

(Continued from page 144)

Chevrolet Rear Spring Shackles

A NEW rear spring Shackle Part Number 3705599 and spring loaded Spacer Part Number 5841501 have been incorporated in the following 1953 truck models: 1 ton panel (3805), 3/4 ton forward control (3742) and 1 ton forward control (3942). In addition, RPO 329 A and B which is school bus equipment for model 3802 includes this new rear spring shackle and spring loaded spacer. This revised shackle and spacer will eliminate the "clucking" noise heard in panel type bodies which resulted from the spring striking the sides of the hanger or shackle when operating over rough roads.



"That's a silencer—My daughter always wanted a quiet weddin'."

Factory Hints

Studebaker Fan Shroud Change

THE fan shroud on the 1954 Champion (15G) and Commander (5H) 5-passenger coupe and Hard-top models has recently been changed to prevent the possibility of damage to the bottom section of the radiator core. The forward edge of the lower flange on the shroud has been turned down to provide for more clearance between the shroud and the radiator core. This change entered production with Serial Nos. G 1288410 (15G) and 8364361 (5H).

If at any time the shroud is removed when servicing 1953 and 1954 5-passenger coupe and Hard-top models prior to these serials, the lower flange should be turned down. This can be done easily and quickly by supporting the shroud on a work bench and using a hammer to tap the flange evenly along its full length until the turned edge is in approximate plane with the shroud mounting flanges.

When installing the shroud, locate it upward as far as the mounting holes permit. This will further help to maintain maximum clearances.

Bleeding Power Steering Unit

REO HAS bulletined the field on bleeding the air from the Ross power steering unit.

There are four operations that must be accomplished in order to remove the air from the above unit after refilling with fluid.

1. Fill reservoir to the proper level. See oil level mark on outside of reservoir.

2. Raise both front wheels from the floor.

3. Turn steering wheel to full right and left continuing until all air is worked out of the system. Be sure that the proper fluid level is maintained.

4. Be sure and check oil level after bleeding.

CAUTION

DO NOT RUN ENGINE OR OPERATE FLUID PUMP WHILE WORKING THE AIR OUT OF THE STEERING SYSTEM.

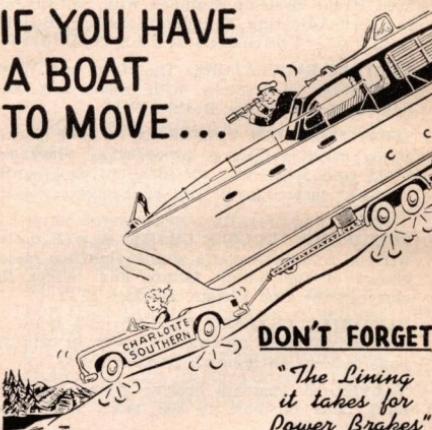
The M.E.W. Oil Level Indicator

The M.E.W. OIL LEVEL INDICATOR tells when to add oil and how much. Easy to sell and install, because one unit fits all cars, trucks and engines. Free working display panel with order of 1 doz. or more. List price \$7.95 per unit.



MINNESOTA ENGINE WORKS, INC.
5600 N. Hamline Ave. St. Paul 12, Minn.

IF YOU HAVE
A BOAT
TO MOVE...



"The Lining
it takes for
Power Brakes"

SOUTHERN
FIBER BLOCK

SOUTHERN
FRICTION MATERIALS CO.-CHARLOTTE, N.C.

Free

Increase YOUR Know-How with these "HOW-TO-DO-IT" Manuals

SERVICING AUTOMATIC TRANSMISSIONS: Lubrication service information for Hydra-Matic, Dynaflow, Fluid Drive and Hudson Wet Clutch. Booklet N-2.

MECHANIC'S REFERENCE BOOK: Operation and care of metal working tools with related information of value to the auto mechanic. Booklet N-4.

SERVICING TAPERED ROLLER BEARINGS: The care and maintenance of tapered roller bearings is clearly shown. Booklet N-6.

PISTON RING MANUAL: Complete data on ring jobs with trouble-shooting hints and their cures. Booklet N-7.

BRAKE SERVICING: Diagnosing and remedying brake troubles is covered in this brake trouble-shooters manual. Booklet N-10.

AUTOMOTIVE CLEANING HANDBOOK: Methods and applications of specialized cleaning equipment for all phases of automotive service and maintenance. Booklet N-12.

BRAKE MAINTENANCE & ADJUSTMENT: Maintenance and adjustment of Wagner Lockheed Brake Systems equipped with Self-Centering, Self-Adjusting Foundation brakes. Booklet N-18.

VOLTAGE REGULATORS: The Hows and Whys of Voltage Regulators with some do's and don'ts for servicing. Booklet N-15.

SERVICING FORD VALVES: A manual, pocket sized, with servicing procedures, diagrams, kinks and short-cuts, specifications and equipment for servicing all Ford built engines. Booklet N-19.

FUEL PUMP TROUBLE CHART: A wall poster with a trouble-shooter's guide showing major causes of fuel pump failure and telling the story of the fuel system. Booklet N-22.

REPAIRING CRACKED BLOCKS: All types of mechanical block repairs are given in this 26-page instruction manual. Booklet N-23.

VALVES: A business booster giving the cold, hard facts on how to sell more valve jobs. Booklet N-24.

SOLDERING SIMPLIFIED: Information on correct soldering and equipment needed for a perfect job. Booklet N-29.

These booklets, which every service man should have, will be sent FREE (except where noted) to all service shop operators. Merely check or circle those wanted (limit yourself to five) and send this page to

Motor Service

Be Sure to Enclose Letterhead, Billhead or Business Card with your request.

Free Manuals Dept.,
549 W. Washington Blvd.,
Chicago 6, Ill.

DELCO

America's No. 1 Battery

PRESENTS

on the CBS radio network

LOWELL THOMAS

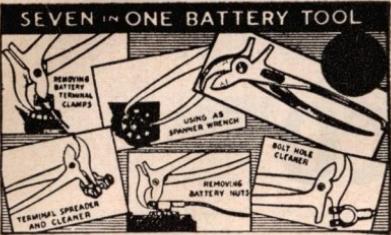
America's Most Famous Newscaster

Lowell Thomas through many years of broadcasting has developed a tremendous listening audience who respect and admire his factual delivery of news events.

AND NOW, starting November 1, this world-famous traveler and newscaster will be on the air for Delco batteries, a General Motors product. Five nights a week, Monday through Friday, he will carry the Delco battery sales message into millions of homes and car

radios throughout the country. This is constant and powerful advertising for Delco Batteries—advertising that will be directed to your customers—advertising that will pay off in greater sales for Delco battery dealers! Listen to his program and remember that Lowell Thomas is selling Delco Batteries—to a vast audience of motorists. A tremendous response to this latest Delco battery promotion is anticipated.

CBS RADIO NETWORK



If your Jobber can't supply you, write

PAZZANO WRENCH CO.

614 Moody St., Waltham, Mass.

Highest QUALITY!



UNIVERSAL JOINTS • CHASSIS PARTS • P.T.O. JOINTS

\$11,000

in 8 Months — only 1 man
with an

INLAND RADIATOR DEPT.

Says Jack Fagan of Jack Fagan, Inc., Delavan, Wisc. (pop. 4007) "Our Inland Radiator Department paid for itself faster than any other equipment we have. And, Inland trained our man free! I was skeptical too until I wrote to Inland for their book that tells all about it — "Blueprint for Profit."

Take just 2 minutes. Why not INVESTIGATE the possibilities? Drop us a postcard for your free copy of "Blueprint for Profit," showing equipment and experiences of others.

INLAND Mfg. Co.

1108 Jackson St., Dept. MS-11, Omaha, Nebr.

World's Largest Radiator Equipment Mfg.
Other free catalogs, supplies — cores

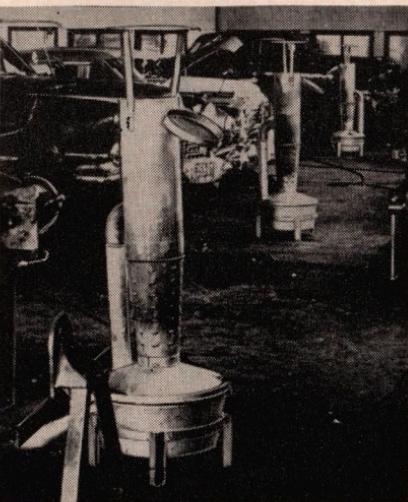
Profit Making Products

(Continued from page 90)

Hy-Lo—Portable Space Heater

ITEM NO. 1204

An all-purpose heater capable of producing up to 140,000 BTU per hour is available for the automotive or jobber shop to supplement existing heating systems or produce emergency heat whenever and wherever needed. The SCHEU PRODUCTS CO., manufacturers of the Hy-Lo Salaman-



der Portable Heater, say their product is not only a clean burning heater, but low in operating cost. They claim it produces 70,000 to 140,000 BTU of heat per hour on from $\frac{1}{2}$ to 1 gal. of kerosene or stove oil. One filling of 10 gal. lasts from 10 to 20 hours. A damper device is standard for quick extinguishing.

For more information use coupon on page 169.

* * *

Toledo Adds to Line

ITEM NO. 1205

Coil springs made to new high standards of design, manufacture and inspection have been added to the TOLEDO STEEL PRODUCTS CO. line of front end parts. This addition makes the line of motor and chassis parts more complete. Since coil springs are becoming an important unit of today's front end assembly, the company has made this addition.

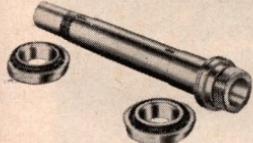
For more information use coupon on page 169.

(Continued on page 152)

the biggest PLUS in lathe history!

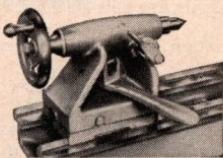
NEW 12"

CLAUSING "5300" SERIES (1" COLLET CAPACITY)



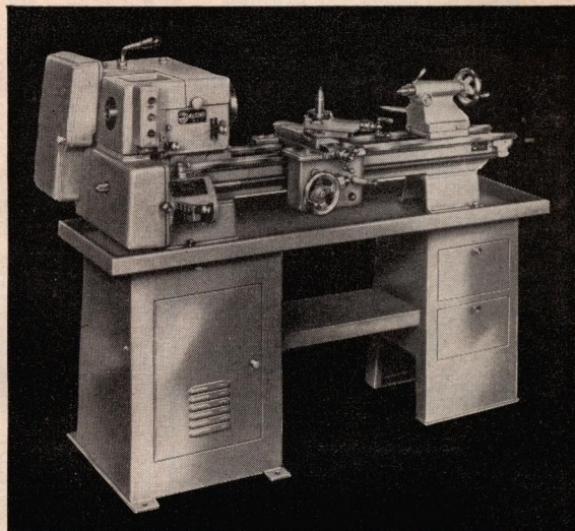
"ZERO-PRECISION" BEARINGS

Precision ground, forged steel spindle turns on widely spaced heavy duty Timken "ZERO-PRECISION" tapered roller bearings — bearing run-out tolerance is .00015.



MASSIVE TAILSTOCK

Heavy duty tailstock has No. 3 MT ram with tang socket. Swing-type wrench, permanently attached, controls bed lock.



"ZERO-PRECISION" TIMKEN TAPERED ROLLER BEARINGS,
AND EXCLUSIVE FRICTION CLUTCH AND BRAKE COUNTER-
SHAFT = GREATER ACCURACY . . . TOP PRODUCTION

The brilliant new CLAUSING 5300 Series Lathe gives automotive repair shops more Plus Value features than any lathe . . . at or near its price!

Husky Timken "Zero-Precision" tapered roller spindle bearings. Forged steel spindle with hardened ground nose. 1" collet capacity. Heavy duty tailstock with No. 3 MT ram, tang socket. Built-in countershaft with friction clutch and brake for instant starts and stops of spindle without stopping motor. Double-walled automatic apron with oil bath lubrication. 12 speeds, 29 to 1300 RPM. Instant selection 48 threads or feeds. Steel-cable B-belt drive. Massive bed, 7½" wide, 5½" deep . . . V-ways and flat ways precision ground. New heavy steel plate pedestal base and pedestal cabinet.

It's the ideal lathe for making your own special tools and parts . . . winding coils . . . trueing, under-cutting and polishing armatures . . . doing any machinery job that may be required. It's a big time-saver — profit-maker for the automotive service shop!

WRITE FOR ILLUSTRATED LITERATURE — TODAY!

CLAUSING DIVISION, Atlas Press Co.
11-112 N. PITCHER ST. • KALAMAZOO, MICHIGAN



CLEAN PART-ners



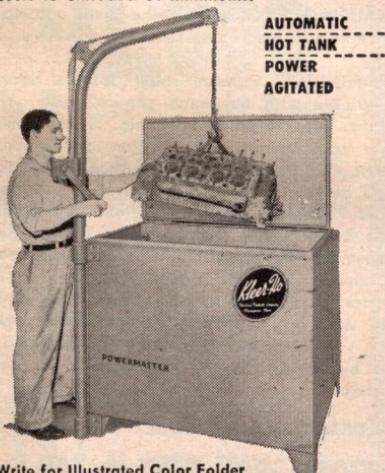
**CLEAN
AUTOMOTIVE
INDUSTRIAL
PARTS 3 WAYS!**

1. Continuous flow hose
2. Air Agitated soaking tank
3. "Super Power" Jet Air Gun

**Kleerflo SUPER
CLEANMASTER
MODEL 50**

**Kleerflo
POWERMASTER
DEGREASER**

Wash entire engine blocks or 200 pounds of smaller parts at once and fast! A unit that will definitely reduce your operating costs to unheard-of minimums.



Write for Illustrated Color Folder

America's Foremost Producer of Parts Cleaning Equipment

PRACTICAL PRODUCTS CO.
2632 Nicollet Avenue • Minneapolis, Minn.

Profit Making Products

(Continued from page 150)

Terminal Dispenser Developed By Standard Motor

ITEM NO. 1206

STANDARD MOTOR PRODUCTS, INC. is now distributing wire terminals in a new terminal dispenser. The new container is easy to open, dust free, durable (it can later be used as a small parts container) and dispenses one terminal at a time when the "sliding door" in the back is opened. The front is transparent plastic to enable a proper selection to be made at a glance.



Twenty-four different varieties of Standard terminals, clips, connectors, insulators and solderless terminals are now packaged in these dispensers.

For more information use coupon on page 169.

Factory Service Hints on page 70 are a must on the reading list for the alert shop man.

From the American Finance Conference comes the information that one out of every seven persons employed in the U.S. is employed in the motor vehicle industry and businesses it supports. They also point out that the United States produces 76 per cent of all the world's motor vehicles.

Profit Making Products

Truck-Bus Mufflers from A-T-I

ITEM NO 1207

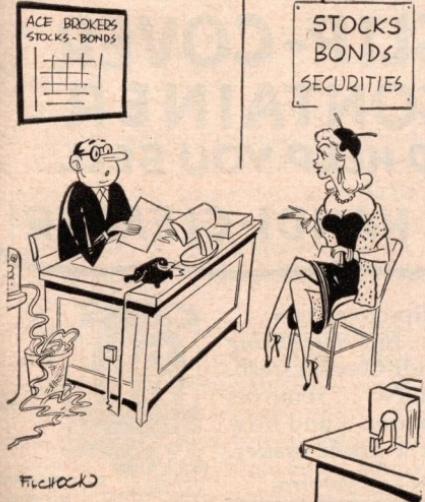
Noise abatement requirements of cities throughout the country have increased. With this in mind and through the cooperation of the American Trucking Assn., and the Automotive Manufacturers Assn., ALEXANDER-TAGG INDUSTRIES, INC. has made available for the replacement field, a line of their ATI heavy-duty mufflers and accessories for busses and trucks with gasoline, diesel and LPG powered engines.

The ATI line of three basic types, the Power Guard, Sound Entry and the special Diesel muffler are all manufactured under tried and proven acoustic principles. They are all of heavy-duty, heavy gauge, all-welded steel construction. The maker claims they reduce noise while increasing engine performance, efficiency and economy. The end product from these features are better mileage, reduced maintenance due to burned valves and cracked manifolds and an increased payload horsepower.

For more information use coupon on page 169.

(Continued on page 156)

Mac Speeds a Pit Stop is the title of this month's Mac Story. You'll find it on page 44.



"I don't want to buy any—I just want to know which ones to accept."



AWCO Coil Spring Spacers

Preferred by particular alignment men. Pressure cast for strength. Built-in stop for coil end & "twisted" to fit both coil & seat.

MARVO Second Line Spacers & Compensators. Priced low to meet competition.

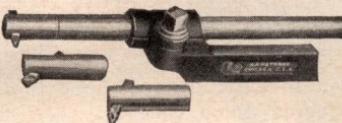
See your jobber or write:



ARN-WOOD COMPANY

610 W. Colfax Denver 4, Colo.

ARMSTRONG TOOL HOLDERS



With 4 or 5

ARMSTRONG TOOL HOLDERS you are permanently toolled-up for every lathe operation. For example, the Boring Tool, illustrated, with its 3 tips that hold cutters at 90°, 45°, 30°, will do all boring and inside threading jobs. Stocked by leading Tool Departments.

Write for Catalog

ARMSTRONG BROS. TOOL CO.

"The Tool Holder People"

5227 W. Armstrong Ave., Chicago 30, Ill.



the NAME that MEANS what it SAYS!

TINIT
AT LOWEST TEMPERATURES



TINS and CLEANS ALL METALS IN ONE OPERATION

Cleans, tins, fluxes; flows into joints, bends, corners; penetrates rust, paint and grease.

Other TINIT products: Soldering Salts, Paste, Welding and Braze Fluxes, Tinit, Hand Cleaner.

Ask your jobber or write for details

TINIT MFG., CO., INC. 1635 Platte St. Denver, Colo.

AUTOMOTIVE CALENDAR

SUN	MON	TUE	WED	THU	FRI	SAT
..	..	..	..	..	3	
4	5	6	7	8	10	
11	12	13	14	15	17	
18	19	20	21	22	24	
25	26	27	28	29	30	31

Dec. 4-5—Automotive Warehouse Distributors Assn. Meeting, Conrad Hilton Hotel, Chicago.

Dec. 7—Annual Meeting of Automotive Affiliated Representatives, Sheraton Hotel, Chicago.

December 8-11—Automotive Service Industry Show, Navy Pier, Chicago.

Dec. 8—A.B.C. International Banquet, Conrad Hilton, Chicago.

Dec. 9—A.A.R. Banquet, Sheraton Hotel, Chicago.

Jan. 8-13—Houston Automobile Show, Sam Houston Coliseum, Houston, Tex.

Jan. 8-16—Chicago Automobile Show, International Amphitheatre, Chicago.

Jan. 29-Feb. 6—Detroit Auto Show, State Fair Grounds, Detroit.

Feb. 7-11—Automotive Accessories Manufacturers of America Exposition, Navy Pier, Chicago.

February 8-13—Omaha Auto Show and Transportation Exposition, Omaha's New Auditorium, Omaha, Neb.

Feb. 24-27—Pacific Automotive Show, Pan Pacific Auditorium, Los Angeles.

Mar. 31-April 3—Southwest Automotive Show, Bexar County Coliseum, San Antonio, Tex.

May 8-11—Automotive Engine Re-builders Association Convention, Hotel Cleveland, Cleveland, Ohio.

May 26-June 4—Automotive Products Manufacturers' Assn. of Australia Exhibition, Melbourne, Australia.

WE'VE GOT A BRAND NEW
SLIP-COVER
CONTAINER
TO HELP YOU SELL
DL HANDI-CLEANER!

Here's our slick new slip-cover can . . . easy to open or close . . . but close fitting enough to keep DL Handi-Cleaner fresh.

Add to this DL's TWO-WAY ACTION . . . removes dirt, grease and grime with or without water . . . and how can you miss? Use it . . . sell it . . . its a profit maker.

Packaged in 14 oz., 3 lb., 4½ and 5 lb. dispenser sizes, and 5 gal. containers.

MADE
ONLY BY

BANITE CO.

BANITE BLDG.,
BUFFALO 4, N. Y.



Dealer Dates

December 2—Utah Automobile Dealers Association, Newhouse Hotel, Salt Lake City, Utah.

December 2-4—Montana Automobile Dealers Association, Florence Hotel, Missoula, Montana.

December 7—Milwaukee County Automobile Dealers Association, Milwaukee Athletic Club, Milwaukee, Wis.

January 29-February 2—National Automobile Dealers Assn., Convention, Conrad Hilton Hotel, Chicago.

You'll find the story on page 46 of unusual interest.

Empire State Passes Inspection Law

NEW YORK Governor Dewey, in commenting about the newly passed state law requiring twice-a-year safety inspections on motor vehicles said, "We have a right to hope that this new program will save as many as 180 lives a year and prevent thousands of injuries."

Starting on May 1, 1955, every one of the 4½ million vehicles registered in the State of New York will be required to pass inspection at a State licensed, but privately owned inspection station. By September 1, an inspection sticker must be displayed on every vehicle.

Vehicle inspection will cover brakes, lights, steering, glass, wheel alignment, horn, tires and windshield wiper.

About 13,000 service shops are expected to be licensed as official inspection stations. Application forms for station licenses, as well as regulations covering their operation, will be ready toward the end of the year. A

shop, to be accepted, must meet certain equipment and space requirements. In addition, qualified personnel must be employed. The State Police will investigate each application for the Motor Vehicle Bureau.

The Macduff-Johnson plan in New York State should definitely lower traffic fatalities and bring more business to the alert automotive service shop.



The tips *swivel* after the flame is lit!

Look what that means: You can change the working angle of your torch in a split second without any loss of time. No more wasting time shutting off the gas, looking for wrenches, lighting up again.

Ask us about it — drop us a card.

SMITH WELDING EQUIPMENT CORPORATION

Dept. MS-121 2633 S.E. 4th St. Minneapolis, Minn.

It's a Snap!

TO REMOVE DRAIN PLUGS . . .
SERVICE BATTERIES WITH
JOB-DESIGNED
KEN-TOOLS



SEE YOUR JOBBER on the complete line of *Job-Designed* Ken-Tools. Forged by the largest exclusive manufacturer of top-quality Tire-changing Tools and Equipment. **THE KEN-TOOL MFG. CO., AKRON 5, OHIO.**

JOB-DESIGNED
KEN-TOOLS
TIRE-CHANGING
TOOLS KNOWN, USED
AROUND THE WORLD

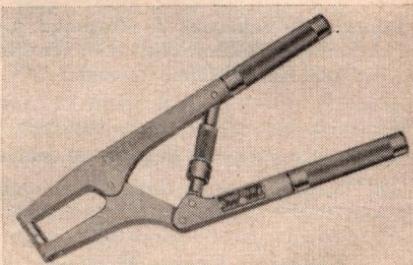
Profit Making Products

(Continued from page 153)

Pruden Adds a Porta-Riveter

ITEM NO. 1208

An addition to the autobody line of tools of the PRUDEN TOOL CO. is the portable hand riveter called the Porta-Riveter. Although the tool was expressly designed for use in removing and replacing rivets on Chevrolet and Cadillac grills, the tool can be adapted for many other uses about the shop.



The forged steel tool has an adjustable fulcrum linkage for different thicknesses of metal being worked on. The pressure ratio is 20 to 1. This means that a hand pressure of 100 lbs. can produce one ton of pressure at the head. The installing head of the Porta-Riveter is magnetized to hold the rivet while the operator closes the handles.

For more information use coupon on page 169.

* * *

Thor Announces New SpeedSander

ITEM NO. 1209

A new, heavy-duty, orbital-motion Thor SpeedSander is now in production by the SPEEDWAY MFG. DIV. OF THOR POWER TOOL CO. The sander has a full load speed of 5500 r.p.m. and a $4\frac{1}{2} \times 9$ in. sanding area. The new No. 1500 SpeedSander has been introduced as a companion to the smaller No. 150 SpeedSander.

It weighs $7\frac{3}{4}$ lbs. and has an overall length of 11 in.

For more information use coupon on page 169.

(Continued on page 158)

Angry and peeved the northern Co-ed entered her room and complained, "Men are all alike."

Her southern belle room-mate looked up and smiled, "Men are all Ah like, too."

Allied A.P.C.
*
American Brakeblock
PARTS FOR TRUCK
COMMERCIAL VEHICLES
AND AUTOMOBILES

BALKAMP
PARTS FOR TRUCK
COMMERCIAL VEHICLES
AND AUTOMOBILES

Belden
WIRE AND CABLE

BRIDGEPORT
THE VALVE & ACCESSORIES

BRIGGS
SHOCK ABSORBERS

BROWN LIPSEY
GEAR STEERS

CELORON
THIN GEAR

DETROIT
UNIVERSAL JOINTS

DITTMER
TRANSMISSION GEARS

DUCKWORTH
THIN CHAINS

ECHLIN
AUTOMOTIVE PARTS

Federal
BALL BEARINGS

Allied **GRAPHO**
METAL FORMING
PARTS FACILITY

MARTIN-SENOUR
AUTOMOTIVE PRINTS

MicroTest
GEAR AND BRAKE

Modac
FABRIC TESTER

Monmouth
CLUTCH PLATES & PARTS

New Britain
HAND TOOLS

Allied **PRECISION**
STEEL PIPE

PURITAN
LUBRICANTS
LIQUID CHAIN & FRICTION
LIQUID ELECTRIC FLUID

RARITAN
ROLLER BEARINGS

Allied **YARD**
VALVE SPRINGS

Soundmaster
MUFFLERS

STANDARD
GEAR RETAINERS

Spicer
UNIVERSAL JOINTS

Allied **Thomson**
THROTTLERS

VALCO
AUTOMOTIVE SAFETY PRODUCTS

UNITED
HYDRAULIC BRAKE
STEERING SYSTEMS
BRAKE CABLES

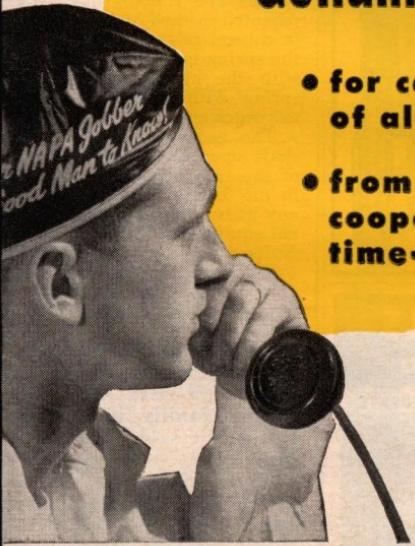
VISAL
BRAKE LIGHTS & SIGNALS

Allied **WISCONSIN**
PISTON NEEDLES

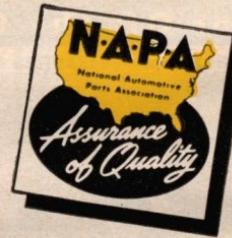
ZOLLNER
TOOL EQUIPMENT

at your call—

Nationally Advertised Brands of Genuine Quality



- for cars and trucks
of all makes
- from one completely
cooperative and
time-tried source



● You'll save time—you'll save money—by concentrating your parts purchases with your nearby NAPA Jobber. Because he is part of the industry's most highly organized and most comprehensive parts distributing system, he is able to give you an extraordinary service. Your NAPA Jobber is a good man to know—and the better you know him, the more it will profit you.

National Automotive Parts Association, Detroit,
in behalf of the thousands of independent

N·A·P·A JOBBERS

who supply the automotive repair trade from coast-to-coast with these*—and many other nationally advertised brands of quality automotive parts and supplies.

Profit Making Products

(Continued from page 156)

Filko Makes Pre-Set Contacts

ITEM NO. 1210

The F & B MFG. CO. under their trade name of Filko, have a pre-set contact point assembly which they claim gives higher precision timing, better performance, longer service at top efficiency and less frequent maintenance attention.

The tungsten points are aligned during manufacturing with spring tension controlled and adjusted so that they will not change during installation. High quality stainless steel is used in the spring and its inherent characteristics balance it both for arm frequency and rubbing block pressure. A Filko patented method of keeping the rubbing block in correct relationship with both the arm and the spring uses four gripping fingers, integral with the arm which holds the block and spring with a double security in addition to two rivets.

The pedestal type hollow bronze bearing shaft upon which operates the fibre bushing of the arm does not use the conventional pin in the distributor plate and is unaffected by any inaccuracy or wear in this piece of original equipment. The rubbing block is made of Nylon.

For more information use coupon on page 169.

DOES the JOB of TWO ...for the PRICE of ONE WASHBURN BATTERY CELL TESTER NO. 555

Will Test Both
6 Volt and 12
Volt Batteries. Only

\$4.00

West of Rockies \$4.50

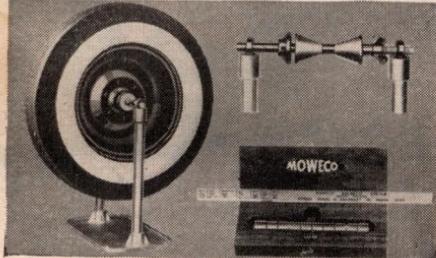
Get it from your Jobber
If he can't supply you, write

WASHBURN MANUFACTURING CO.
Kokomo, Indiana



BALANCE WHEELS On or Off the Car

New Balnetic System—GUARANTEED ACCURATE



Provides best driving balance obtainable.
Fast — Portable — Profitable

HERE'S WHAT YOU GET

- Balancing Stand
- Balancing Shaft
- 2 Balancing Cones
- 2 Ball Bearings
- Balnetic Kit
(Composed of ten
one-ounce magnets)
- Scribing Blade

NET PRICE

\$69.50

COMPLETE

If Your Jobber Can't Supply You Write:

MORGAN WHEEL & EQUIPMENT CO.

2007 St. Mary's Ave.

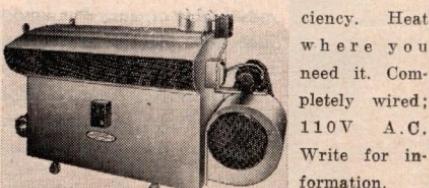
Omaha, Nebr.

Lily White brought an extremely attractive blonde friend home from college for a visit. After introducing her to the family including great-grandfather she said, "Just think, he's in his nineties!"

"Just my early nineties," the old gent amended with a gleam in his good eye.

Portable Oil or Gas Furnace

Ideal for additional heat. Low cost, high efficiency. Heat where you need it. Completely wired;



Write for information.

Siebring Mfg. Co., George, Iowa

Profit Making Products

Self Propelled Rotary Mower Introduced by Worcester

ITEM NO. 1211

Now in production at the WORCESTER LAWN MOWER CO. DIV. OF SAVAGE ARMS CORP. is a self-propelled rotary mower, 20 in. cutting width, featuring rear-wheel drive, positive finger tip clutch action and a leaf mulching attachment at no additional cost. The manufacturer says this is an all season lawn tool.

Power is supplied by a 2 h.p. Briggs & Stratton retrievable starter 4 cycle engine with vertical shaft. The mower has a ground speed of 3 m.p.h. with some allowance for adjusting for slower or faster walking.

Placement of the wheels permits close mowing near fences, trees, etc.

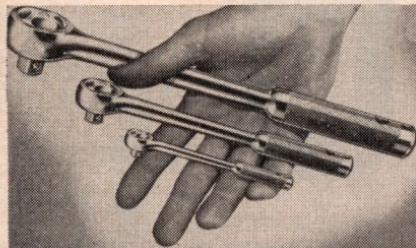
For more information use coupon on page 169.

The latest Shop Kinks are on page 26.

Duro-Chrome Ratchet Wrench

ITEM NO. 1212

A new life-time ratchet wrench in three popular sizes has been added to the Duro-Chrome line of the DURO METAL PRODUCTS CO. In making these wrenches, Duro has used alloy steel of high tensile and torsional strength which they claim exceeds government requirements by 33 per cent. The wrenches can be easily disassembled for cleaning in ten seconds.



The new wrench can take a new bite every seven degrees and is available in three sizes, $\frac{1}{2}$ in., $\frac{3}{8}$ in. and $\frac{1}{4}$ in.

For more information use coupon on page 169.

(Continued on page 160)

Some folks are no longer content to pursue happiness, they want to run it down.

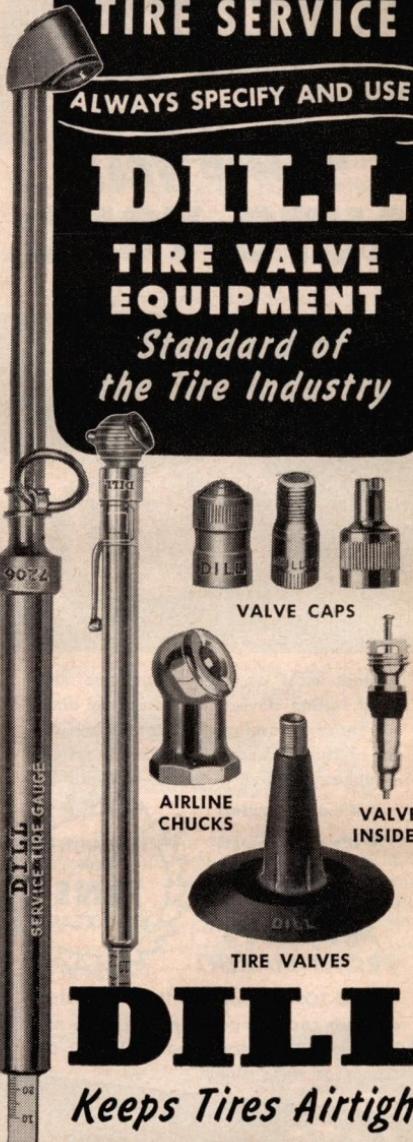
November, 1954

FOR BETTER TIRE SERVICE

ALWAYS SPECIFY AND USE

DILL TIRE VALVE EQUIPMENT

Standard of
the Tire Industry



DILL

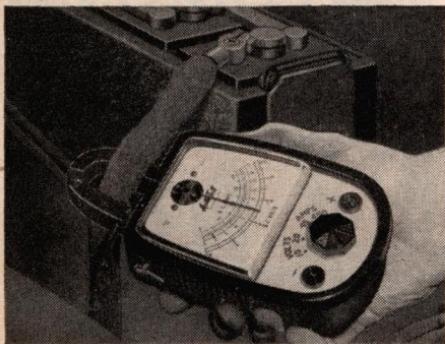
Keeps Tires Airtight

THE DILL MANUFACTURING CO.
700 East 82nd St., Cleveland 3, Ohio

**Check Electrical
Systems in Seconds —
without disconnecting
a wire!**

Auto-Test **AUTO-TONG**

(Pat. Pending)



Fastest, most accurate automotive electrical testing device for measuring direct current ever developed! Instantly tests any car or truck — both 6 and 12-volt systems — makes electrical diagnosis a "snap"!

- It's an ammeter!
- It's a voltmeter!
- Compact...fast
...easy to read!

MECHANIC'S PROFIT-MAKER!

"AUTO-TONG" pays for itself on savings of labor costs — opens up profitable new business in electrical diagnosis! See your jobber or write direct.

Auto-Test

Inc. 600 S. MICHIGAN AVE.
CHICAGO 5, ILLINOIS



Profit Making Products

(Continued from page 159)

DeVilbiss Paint Heater

ITEM NO. 1213

A new line of paint heaters developed and manufactured by the DEVILBISS CO. is called by them as the ultimate in control of organic material temperatures for the hot spray process. This paint heating system, which utilizes hot water, is designed for maximum efficiency in either large or small operations. The unit has been devised with only one moving part, a pump for circulating hot water.

Material to be sprayed is heated in a heat transfer unit located near the spray station. Exchange of heat from the hot water to the material is positive and speedy. To assure heated material at the point of usage, the unit has a jacketed hose from the heat exchanger to within a few inches of the conventional spray gun.

For more information use coupon on page 169.

* * *

Parts Master Cleans Small Parts

ITEM NO. 1214

The RUST MASTER CHEMICAL CO. has introduced a new cleaning solvent which they call the Parts Master. It is for cleaning carburetors and small engine parts by cold immersion.

The product is said to dissolve all grime, sludge, grease, paint, varnish, gum, etc. from all metals with one "dunking." It is non-explosive and non-inflammable making it safe to use anywhere in a shop. Although Rust Master is a cold immersion cleaner, heat can be applied if quicker action is desired.

For more information use coupon on page 169.

(Continued on page 162)

"How in the world do you have time to care for 13 children?"

"Well, when I had only one child it took all my time; what more can 13 do?"



LOOK!

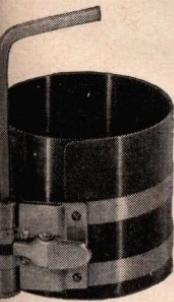
4 REMARKABLE

ZIM TOOLS

Like all other Zim Special

Tools these four are designed to save time and temper when doing repair and maintenance work on automobiles, trucks, tractors and buses.

No. 214 PISTON RING COMPRESSOR
For Passenger Cars



A 2-band model with $2\frac{1}{8}$ to 5" ring capacities. Compressor band is $3\frac{1}{2}$ " wide and takes all rings at once, including skirt ring. A self-locking ratchet pawl prevents premature release. Comes in individual carton. Wt. 1 lb.

No. 215 PISTON RING COMPRESSOR

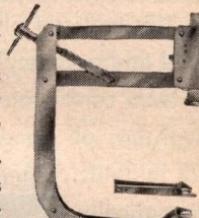


For Trucks and Tractors
A 4-band model with $3\frac{1}{2}$ to 7" capacities. Made for heavy duty skirt ring pistons . . . $6\frac{1}{2}$ " wide compressor band. Has double self-locking ratchet. In individual carton. Wt. 2 lbs.

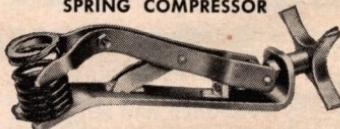
Ask your Jobber Salesman for Zim Tools
or write for Catalog of complete line.

No. 127 VALVE SPRING COMPRESSOR, C Type

Heavy duty, screw style model with great power. Will handle most valve jobs. Has adjustable ram, $10\frac{1}{4}$ " wide opening, $10\frac{1}{4}$ " deep throat. Holds at any position without locking. For larger engines, manifolds can be removed. Cadmium finished. Comes with set of straight and curved jaws. Wt. 8 lbs. NO. 128 EXTRA HIGH OFFSET JAWS to use with above when valve spring cannot be raised required height, at extra cost.



No. 126 VALVE LIFTER and SPRING COMPRESSOR



It's short and powerful—easy to use in hard-to-reach places. Holds firm at any point. When working, jaws are practically parallel. Lower jaw and frame are one piece of hardened steel. Has high lift, good room for inserting valve key. Compresses valve springs for easier handling. Wt. $1\frac{1}{2}$ lbs.

ZIM MFG. CO., 3049 W. Carroll Ave., Chicago 12, Ill.

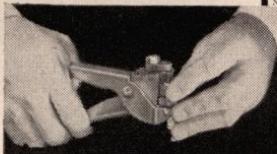
56 Special Tools for Adjusting, Repairing and Cleaning
Valves, Cylinders, Pistons and other Motor Parts



**Fastest Way Yet!
USE A CF-70 GAPPING
TOOL ON EVERY PLUG**



This tool sets plug gaps with a speed and accuracy old type bending tools can't match. Spring steel gauge has all standard gaps from .022 to .040...a one-hand squeeze automatically gaps and gauges in one motion.



The resulting gap is perfectly square, for a fatter, surer spark that improves engine performance and lengthens plug life. Fine-tool construction you'd expect to pay twice this low price for . . . satisfaction guaranteed.

only \$3.95

If your Tool Source is out of stock,
write

Clark-Feather MFG CO.
Ft. Morgan, Colorado

Profit Making Products

(Continued from page 160)

New Line of Automotive Chemicals

ITEM NO. 1215

The TINIT MFG. CO. is introducing a new line of chemicals to the automotive trade. These new items include Tinit Waterless Hand Cleaner which the manufacturer says will remove grease and dirt quickly, easily and leave the hands soft and without irritation.

The new Tinit Windshield Wiper Solvent is attractively packaged to sell to the trade. Tinit also presents the new Cooling System Cleaner and Radiator Stop Leak which they say measures up to the same quality of their other products.

For more information use coupon on page 169.

* * *

**Weller Has New "Junior"
Soldering Gun**

ITEM NO. 1216

The WELLER ELECTRIC CORP. has introduced a new low-cost Junior Soldering Gun with ample power for all general soldering. It has been designated as Junior Model 8100 and incorporates many of the features found in the larger models. It is rugged enough to withstand the impact of other tools in a chest, yet light enough to be easily portable for jobs anywhere.



Trigger control switches heat on or off instantly. Dual prefocused spotlights illuminate the work area. The Junior soldering gun is equipped with standard replaceable Weller soldering tips.

For more information use coupon on page 169.

Motor Service

Profit Making Products

Tubeless Tire Bead Expander

ITEM NO. 1217

This essential new tire service tool has a braided wire cable that fits all sizes of tubeless tires. A crank handle turns to tighten

the cable over the outer tread of the tire and the tire bead is then tightened on the wheel rim. A spring loaded locking trigger automatically locks the tool in the final position to allow the operator to have both hands free to inflate the tire.

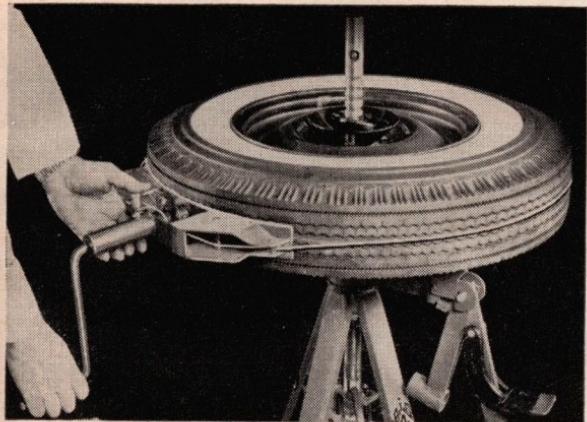
This tool, available from the MILLER MFG. CO., eliminates the need of beating the tire to make it settle evenly against the rim. The cable, when placed around the tire and tightened, slides easily and allows equal tension around the entire circumference.

For more information use coupon on page 169.

(Continued on page 164)

Don't pass up reading the Readers Question Box on page 10.

An auto body mechanic we know sees a great similarity between girls and cars—a good paint job conceals the years, but the lines tell the story.



Thrifty!

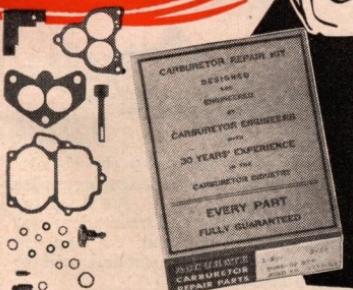


ACCURATE CARBURETOR TUNE-UP KITS

Get top value at lowest prices! Specify Accurate Tune-Up Kits for the following:

BUICK	CROSLEY	FORD	LINCOLN	PLYMOUTH
CHEVROLET	DE SOTO	FORD TRUCK	MERCURY	PONTIAC
CHRYSLER	DODGE	HUDSON	NASH	STUDEBAKER
			OLDSMOBILE	WILLYS JEEP

Accurate Carburetor Tune-Up Kits contain all necessary parts for tune-up jobs. Kits come complete with diagrammed instruction sheets, float gauges, and other items.



Ask your jobber about the ACCURATE line, America's best automotive replacement parts.

ACCURATE PRODUCTS, Inc.

720 E. WASHINGTON ST., INDIANAPOLIS, IND.

Profit Making Products

(Continued from page 163)

Lubricant to End Speedometer Troubles

ITEM NO. 1218

According to the PANEF MFG. CO., every car owner is a potential customer for Lub-a-Cable. It is an easy-to-use speedometer cable lubricant which they claim has been scientifically formulated to assure perfect lubrication of speedometer cables. Neither cold, heat nor time are said to affect it.

Lub-a-Cable is packaged in a plastic tube designed for its utility value as well as eye-appeal. Each tube contains one full application for all types of speedometer cables.

In addition to this product, the company sells Panef-Oil and Lub-a-Spray. The latter product consists of a dry graphitoid lubricant. The three items can be had in handy plastic kits for the TBA counter or the Lub-a-Cable used in the shop for eliminating needle vibration, noise, breakage, etc. on customer's cars.

For more information use coupon on 169.

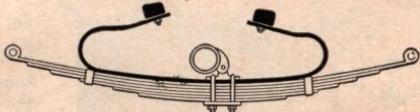
* * *

XtraLoader Helper Spring

ITEM NO. 1219

The XtraLoader is a new low cost over-load helper spring for pick-up trucks and passenger cars announced by MOOG INDUSTRIES, INC.

The company is promoting the Xtra-Loader as a "double spring for about half the price." It is a double spring which provides four point suspension for over-loads of up to 1,500 lbs. extra.



Installation is easy, since only the U-bolts need be removed and the XtraLoader slides into correct position.

Moog is now supplying XtraLoaders for '54 Chevrolet and GMC, and '53 and '54 Ford half ton trucks. Other models will be made available soon.

For more information use coupon on page 169.

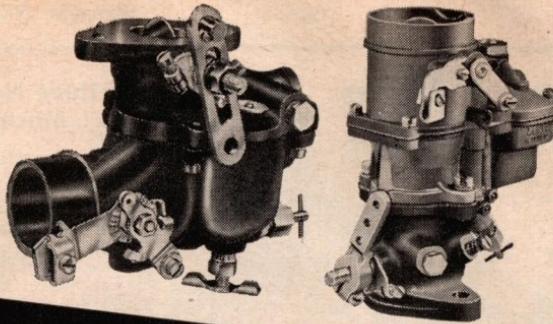
(Continued on page 166)

KEYSTONE TOOLS
DO THE JOB RIGHT

Reamers; Twist Drills; Hones; Taps; Dies; Screw Plate Sets; Valve Tools; Measuring Tools; Wire Brushes, etc.

Stern parent: Young man can you support a family?

Meek young man: I only want Sara.



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make more!

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CARBURETOR
standardized
service
program

The Zenith* standardized service carburetor program is the best answer to any dealer's problem of making a small inventory do a big service job.

Zenith Service Carburetors, Basic Kits and multi-purpose Serva Paks are streamlined so that you actually invest less to handle more jobs and make bigger profits.

In addition, complete service data and sales promotion ideas that will help you build a profitable service business are furnished free of charge.

Write Zenith for details of this money-making carburetor service plan. *REG. U. S. PAT. OFF.

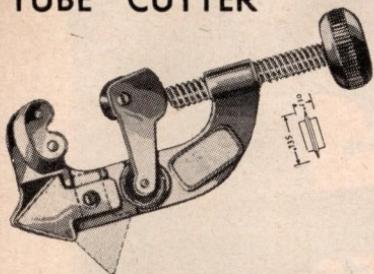
ZENITH CARBURETOR DIVISION OF

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Export Sales: Bendix International Division, 205 East 42nd Street, New York 17, N.Y.

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Capacity $\frac{1}{8}$ "—1" Tubing . . . Reamer slips out of the way when not in use. . . Hardened Tool Steel Cutter.

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In jars, tubes and cans.
Ask about our NEW
Dispenser.



QUICKEE PRODUCTS, INC.
Yonkers, N.Y.

Profit Making Products

(Continued from page 164)

Three New Wheel Service Machines from Bear

ITEM NO. 1220

The BEAR MFG. CO. has announced three new additions to the line of wheel service machines and inaugurated what they call the "Super Comfort-Ride Conditioning Service." The new machines are a new on-the-car Wheel Balancer, a new type of Tire Truer and a simplified Wheel Truer.

In promoting the newest of the automotive services, Bear officials point out that there is a Tune-Up Service, Safety Service, Cooling System Service, etc. and now Super Comfort-Ride Conditioning Service.

Bear says that rather than just sell a wheel balancing job or front end alignment, it should be something like a package combination consisting of shock absorbers, leaf spring packing, coil springs, chassis lubrication, wheel alignment, wheel balancing, tire truing, motor mounts, wheel truing and brake jobs. These all fall under Comfort Services.

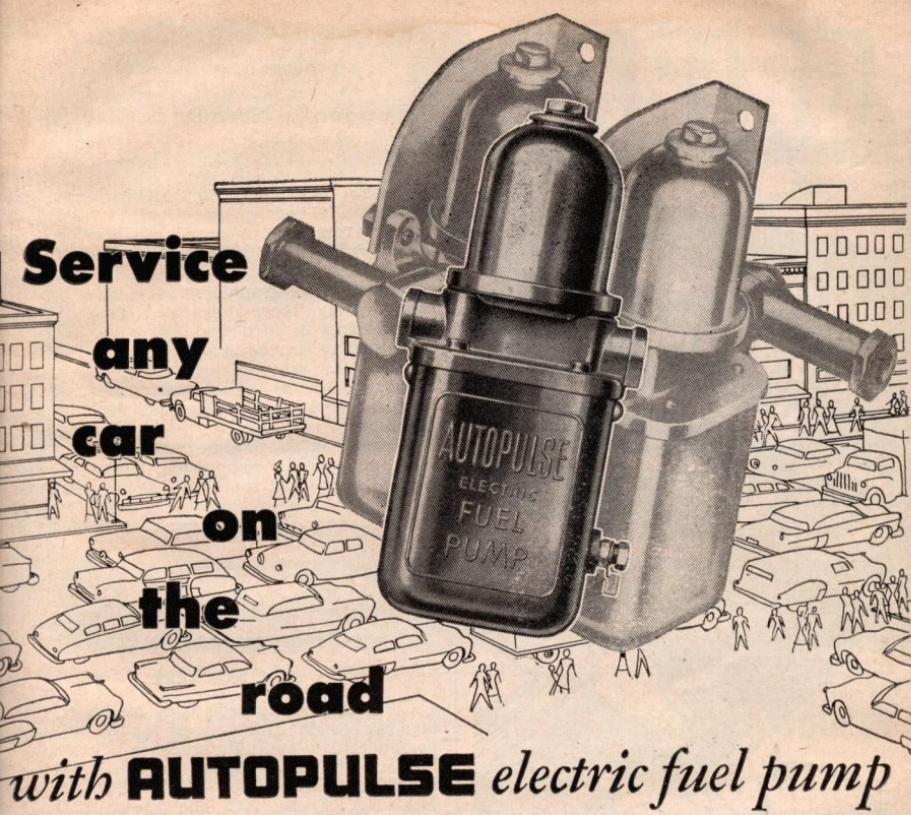
A complete program of sales promotion and advertising assistance will be underway to assist jobbers and service shops. There will be window displays, streamers and banners, direct mail pieces, advertising mats, etc. made available.

For more information use coupon on page 169.

(Continued on page 168)



*"What's wrong with sittin' down?
It's better than doin' nothin', isn't it?"*



When a driver calls for it, you want to be able to supply the right fuel pump. You do not want to be forced to send the sale over to a competitor. You can take care of all fuel pump replacements with one single Autopulse model. With the Autopulse Counter Display Kit you can fit all cars, for it contains:

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Profit Making Products

(Continued from page 166)

Rustgon Is New Turco Cleaner

ITEM NO. 1221

A new, non-acid rust removing material that simultaneously strips paint, rust and primer from ferrous metal has been developed by TURCO PRODUCTS, INC. It is called Rustgon and is an alkaline material requiring a dip and pressure rinse. The company says there is no need for an after-neutralizing or pre-cleaning.

According to the manufacturer, Rustgon removes the heaviest rust, along with paint deposits such as red oxide primer, baked lacquer, acid-proof paint and asphalt finishes.

Rustgon is an alkaline material that contains no cyanide compounds. There are no corrosive or toxic fumes and is used without dilution.

For more information use coupon on page 169.

* * *

Lining and Lined Shoe Specs on New Raybestos Chart

ITEM NO. 1222

Complete specification data on brake linings and lined brake shoes for all popular passenger cars and light trucks is now available on a 4 page chart published by the RAYBESTOS DIV. OF RAYBESTOS-MANHATTAN, INC. The 2 color, 12 × 18 in. folder may be fastened to the shop wall to prevent misplacement and easy reference.

For more information use coupon on page 169.

From Motor Service 25 Years Ago

"Outright purchase by Thompson Products, Inc. of the Cleveland Piston & Mfg. Co. and the Cox Tool Co., both of Cleveland, has been announced by Edwin G. Thompson, vice-president of the buying company also located in Cleveland. By the transaction a service division of Thompson Products extends its merchandising activities from two to four lines of automotive parts by adding pistons and piston pins to motor valves and chassis bolts."

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Specify Trainor Helper Springs for $\frac{1}{2}$ to 1 ton trucks, and Build-Up Kits to reinforce main and helper springs on $1\frac{1}{2}$ to 3 ton trucks. All units are engineered for easy installation.

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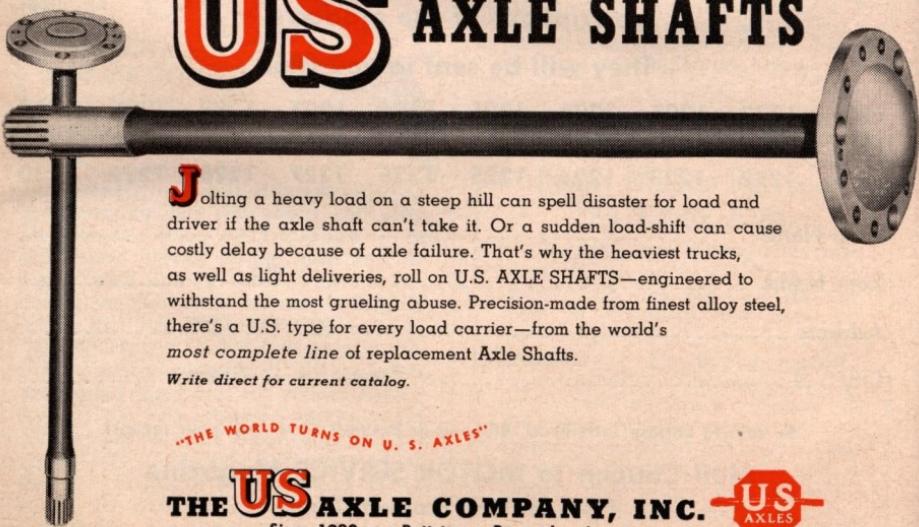
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PARTS, SUPPLIES and ACCESSORIES

Where to get it

Detailed information on parts, supplies and accessories may be found by referring to advertisements on pages indicated. For more complete data and catalog sheets write directly to the manufacturers. They will be glad to send it to you if you say you saw it advertised in MOTOR SERVICE.

BRAKE

- Blocks, 11, 19, 135
- Brakes, Vacuum Power, 22, 23
- Cables, Brake, 104
- Cylinder Parts, Brake, 6, 7
- Cylinders, Wheel and Master, 2, 6, 7, 104
- Fluid, Brake, 2, 6, 7, 113, 157
- Hose, Brake (Flexible), 104, 176
- Hydraulic Brake Parts, 6, 7, 104, 157
- Lining, Brake, 6, 7, 11, 19, 126, 135, 147, 157
- Repair Kits, Brake, 2, 6, 7
- Shoes, Brake, 126
- Springs, Brake, 11

CLUTCH, TRANS. & DRIVESHAFT

- Axle Shafts, 29, 120, 157, 170
- Bearings, Roller or Ball, 6, 7, 12, 31, 157
- Bushings, 71, 163
- Clutch Facings, 19, 157
- Clutch Plates and Parts, 117, 120, 157
- Differential, 100
- Driveshafts, 120
- Gears, Trans. Diff., 120, 157
- Gearshift Neutralizer, 117
- Idler Arm Adjustor, 117
- Pinion & Ring Gears, 120
- Power Take Offs, 29, 33, 120, 150
- Propeller Shafts, 29
- Shims, 158
- Transmissions, 29
- Trans. Gears, 120
- Trans. Mounts, 163
- Universal Joints, 29, 33, 120, 150, 157
- Univ. Joint Ball Housing Kits, 29

COOLING SYSTEM

- Fan Belts, 19, 157
- Filters, Radiator, 75
- Hose Clamps, 127, 157
- Hose, Radiator & Heater, 19
- Radiator Cores, 6, 7, 150
- Thermostats, 6, 7, 157
- Water Pumps & Parts, 48, 157

ELECTRICAL

- Autronic Eye, 20
- Batteries, 6, 7, 11, 110, 167
- Booster Cables, 15
- Cables, Battery, 6, 7,
- Clock, 6, 7
- Coils, Ignition, 73, 77, 95
- Condensers, 73

DISTRIBUTORS

- Horn, 6, 7
- Ignitions, 6, 7, 157
- Lamp Bulbs, 6, 7, 94
- Lamps, Sealed Beam, 6, 7, 94
- Lighters, 6, 7
- Motors, Elec. & Fan, 6, 7
- Motors, Starting, 6, 7
- Motors, Wiper, 6, 7
- Points, Ignition, 73
- Signal Flasher, 94
- Spark Plugs, 62, 63, 80, 81
- Spark Plug Wire Sets, 15
- Terminals, Cable & Wire, 15
- Transformer, 77
- Voltage Regulators, 95
- Wire & Cable, 15, 157

ENGINE

- Bearings, 6, 7, 24, 61, 71, 88, 89, 157
- Bushings, 61, 163
- Carburetors, 6, 7, 103, 165
- Carburetor Repair Kit, 165
- Con-Rods, Rebabbitted, 61
- Con-Rod Service, 61
- Cylinder Sleeves, 24, 157
- Engine Mounts, 119, 163
- Filters, Air, 75
- Filters, Gasoline, 6, 7, 75
- Fuel Pumps & Parts, 80, 81, 104, 149, 157, 173
- Gaskets, 17
- Oil Filters & Cartridges, 35, 75, 80, 81, 98, 115
- Pistons, 96, 157
- Piston Pins, 96, 157
- Piston Rings, Front Cover, 2nd Cover, 76, 111, 3rd Cover, Back Cover
- Shims, Bearing, 61, 108, 109, 146
- Timing Chains and Sprockets, 99, 120, 157
- Timing Gears, 99, 120, 157
- Valves, 157
- Valve Lifters (Hydraulic), 80, 81
- Valve Springs, 157

EXHAUST SYSTEM

- Mufflers, 92, 157

FRONT & REAR SUSPENSION

- Coil Spring Boosters, 32
- Coil Spring Snubbers, 32
- Coil Spring Spacers, 153, 158
- Coil Spring Stabilizers, 32, 144
- King Bolts & Bushings, 96
- Seals, Oil & Grease (See Misc. Parts)
- Shackle Bushings, 163
- Shims, Axle, 158

SHIMS, KNEE ACTION

- Shock Absorber Fluid, 157
- Shock Absorber & Pts., 6, 7, 107, 143, 157, 163
- Spring Buildup Kit, 169
- Springs, Booster, 138, 169
- Springs, Bushing, 163
- Springs, 169
- Springs, Overload, 169
- Steering Knuckle Control, 96

MISCELLANEOUS PARTS

- Accelerator Pedals, 163
- Bolts, Nuts, Screws, Cotters, Etc., 61
- Brass Fittings, 176
- Chassis Parts, 33, 150, 157
- Ford Parts, 56
- Heater (auto), 87
- Oil Level Indicator, 147
- Safety Lights & Signals, 157
- Seals & Retainers (Oil & Grease), 17, 108, 109, 157
- Speedometer Cables, 104, 157
- Tires, 11
- Tire Valves, 16, 157, 159
- Tire Valve Caps & Cores, 16, 159
- Wheel Balancing Weights, 120

OILS, ADDITIVES & CHEMICALS

- Anti-Freeze, Radiator, 27
- Anti-Rust, Radiator, 3
- Cleaner, Carburetor, 114, 146
- Cleaners & Creams, Hand, 153, 154, 166
- Cleaners Parts, 114, 146, 175
- Cleaners, Radiator, 3
- Cleaning Solvents, Parts, 114, 146, 175
- Flushing Fluid, 157
- Oils & Gasoline, 69
- Paints, Lacquers, Enamels & Primers, 8, 83, 157
- Sealer, Radiator & Block, 145, 158
- Undercoating, 8
- Water Pump Lubricant, 3

REPAIR SUPPLIES

- Gaskets and Materials, 17, 120, 140
- Radiator Sealing Compounds, 145, 158
- Rivets (Body Repair), 129
- Solder & Tinning Supplies, 79, 134, 153
- Weatherstripping, 163

MISCELLANEOUS

- Sanding Safety Device, 141
- Time Payment Plans, 85

**Check these pages for reference to
detailed profit-making information on**

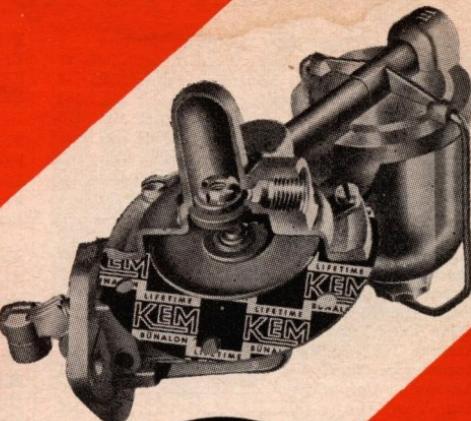
SHOP EQUIPMENT and TOOLS

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Detailed information on equipment and tools may be found by referring to advertisements on pages indicated. For more complete data and catalog sheets write directly to the manufacturers. They will be glad to send it to you if you say you saw it advertised in MOTOR SERVICE.

- Abrasives, 19
- Air Chucks, 16, 159
- Airline Equipment, 16, 159
- Air Compressors (See Compressors)
- Analyzers, Engine Test, 140
- Balancers, Wheel, 112, 114, 123, 158
- Battery Chargers, 65, 134
- Battery Service Tools, 121, 150, 156
- Battery Testers (See Testers or Hydrometers)
- Boring Bar, 9, 84
- Brake Bleeding Equip., 67
- Brake Drum Reconditioner, 101
- Brake Pliers, 5, 146
- Brake Testers, 112
- Brushes, Wire, 164
- Carbon Removing Equip., 67
- Carbon Scraper, 5, 146
- Chisels, 5, 72, 139
- Clamps, 118
- Cleaning Tool, 110
- Cleaners, Carbon Blasting, 67
- Cleaners, Engine & Part, 152
- Compressors, Air, 112, 142
- Compressors, Clutch Spring, 67
- Compressor, Piston Ring, 161
- Compressors, Valve Spring, 34, 52, 53, 124, 161
- Coupler Check Units, 16
- Dial Indicators, 105
- Dollies, Wheel, 112
- Drills, Electric & Pneumatic, 21, 25, 124
- Drills, Twist, 164
- Exhaust Eliminating Fixture, 67
- Files, Metal, 1
- Frame Straightening Equip., 123
- Front End Equipment, 123
- Gage Sets, 5
- Gages, Air, 16, 159
- Gages, Cylinder, 105
- Gages, Feelezit, 114
- Glass Polisher, 116
- Grinders, Bearing, 134
- Grinders, Bench, 25
- Grinders, Cam, 9, 13
- Grinders, Cylinder, 9, 84
- Grinders, Hand, 124
- Grinders, Piston, 9
- Grinders, Portable, 21
- Grinders, Rocker Stem, 9
- Grinders, Valve Seat, 9, 21, 34, 52, 53
- Hammers, Aluminum, 1
- Hammers, Hand, 139
- Hand Vise, 118
- Hones, 164
- Impact Tools, 131
- Jacks, Mechanical & Hydraulic, 6, 7, 28, 97, 112
- Journalizer, 137
- Lathes, Metal & Attachments, 25, 151
- Leak Detector, 67
- Lifts, One End, 97, 112
- Lifts, One, Two Post, 112
- Mechanics Precision Tools, 105
- Oil Leak Detectors, 67
- Oiler for Engine Lubrication, 69
- Paint Matching Machine, 83
- Paint Sprayers & Equip., 91
- Piston Equipment, 157
- Pliers, 5, 72, 118, 139
- Polishers, Portable, 124
- Presses, Arbor, 134
- Presses, Hydraulic, 134
- Pullers, Bearing, 110
- Pullers, Bushing & Oil Seal, 110
- Pullers, Gear and Wheel, 110
- Punches, 5, 72
- Radiator Test Repair Bench, 150
- Reamer Drives, 124
- Reamers, Cylinder Ridge, 144, 164
- Reamers, Piston Pin, 164
- Reamers, King Bolt, 164
- Rod Aligner, 124
- Sanders, Air, 64
- Sanders, Portable Power, 21, 64
- Saws, Band, 105
- Saws, Hack, 5, 105
- Screw Drivers, 5, 72
- Screw Extractors, 5
- Shapers, Bench, 25
- Stud Remover, 5
- Tapes, Steel, 105, 164
- Taps and Dies, 164
- Testers, Battery (Elec.) 158, 160
- Testers, Brake, 112
- Testers, Headlight, 112, 123
- Tire Regroover, 101
- Tire Truer, 101, 128
- Tool Boxes & Chests, 5, 72, 106
- Tool Holders, 153
- Tools, Battery Service, 121, 150, 156
- Tools, Carbon Cleaning, 67
- Tools, Carburetor Service, 72
- Tools, Hand, 157
- Tools, Impact (See Impact Tools)
- Tools, Portable Electric, 21
- Tools, Radiator Repair, 150
- Tools, Spark Plug Gapping, 161
- Tools, Tire Valve Service, 16, 159
- Tools, Transmission, 67, 133
- Tools, Tubing, 166, 176
- Tube Cutter, 166, 176
- Valve Gapper, 125
- Valve Lifters, 34, 52, 53, 124, 161
- Valve Refacers, 9, 21, 34, 52, 53, 124, 164
- Valve Seat Replacing Tools, 9, 34, 52, 53, 124
- Valve Spring Compressors (See Compressors)
- Ventilating Systems, Shop, 67
- Vises, 136
- Vise Grips, 118, 168
- Vortex Suction Device, 9
- Washers, Auto, 112
- Welders & Equip. (Gas), 155
- Wheel Alignment Equip., 112, 123
- Wheel and Hub Straightener, 123
- Wire Stripper, 100
- Wreckers, 36
- Wrenches, All Types, 1, 5, 72, 139
- Wrenches, Box, 1, 72
- Wrenches, Ignition, 1
- Wrenches, Impact, 72
- Wrenches, Open-End, 1, 146
- Wrenches, Ratchet, 1, 139
- Wrenches, Socket, 5, 72, 139
- Wrenches, Stud, 1, 124
- Wrenches, Torque, 5

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INDEX TO ADVERTISERS

AC Spark Plug Div. General Motors Corp.	80, 81	Echlin Manufacturing Company	73
Accurate Parts, Inc.	Between pages 32-33 J-4	Eis Automotive Corp.	2
Accurate Products, Inc.	163	Elgin Machine Works, Inc.	96
Air Lift Co.	138	Emerol Manufacturing Co. Inc.	69
Airtex Automotive Div. Airtex Products Inc.	48	 	
Allen, L. B., Co., Inc.	Between pages 32-33 J-5	Federal Bearings Company Inc., The	31
American Hammered Div. Sealed Power Corp.	76	Federal-Mogul Service	61
Ammco Tools, Inc.	144	Fitzgerald Mfg. Co.	17
Anchor Rubber Prods. Inc.	119	Ford Motor Co.	56
Armstrong-Bray & Co.	110	Fram Corporation	75
Armstrong Bros. Tool Co.	153	 	
Arn-Wood & Co.	153	Grant & Grant	3rd cover
Atlas Press Co.	151	Graymills Corp.	114, 146
Atmars Tool Co.	114	Grey-Rock Division of Raybestos-Manhattan, Inc.	19
Automotive Sandtrax, Inc.	141	Guide Lamp Div. General Motors Corp.	20
Autopulse Corporation	167	 	
Auto-Test, Inc.	160	HaDees Heater Div. of the Gabriel Co.	87
 		Heckethorn Mfg. & Supply Co.	143
Baldor Electric Co.	134	Hein-Werner Corporation	28
Banite Company	154	Holmes, Ernest, Company	36
Barrett Equipment Co.	101	Huot Mfg. Company	106
Basford, H. R., Co.	168	 	
Bay Manufacturing Co.	97	Imperial Brass Mfg. Co., The	176
Bear Mfg. Co.	123	Ingersoll-Rand Company	131
Bell Co. Inc., The	113	Iiland Manufacturing Co.	150
Bendix Aviation Corporation	22, 23, 165	 	
Bendix Products Division	22, 23	Jaw Manufacturing Co.	
Zenith Carburetor Division	165	..... Between pages 32-33 J-13	
Bergman Tool Mfg. Co., Inc.	121	Johns-Manville	135
Binks Manufacturing Company	91	Johnson Bronze Co.	71
Black & Decker Mfg. Co., The	21	 	
Bonney Forge & Tool Works	1	K-D Manufacturing Co.	52, 53
Bowers Battery & Spark Plug Co.	110	Kem Manufacturing Company, Inc.	173
 		Kent-Moore Organization, Inc.	67
Cal-Van Machine Products, Inc.	166	Ken-Tool Mfg. Co., The	156
Cedar Rapids Engineering Co.	9	Kester Solder Company	79
Champion Laboratories, Inc.	98	Keystone' Reamer & Tool Co.	164
Champion Spark Plug Co.	62, 63	 	
Chrysler Corp. Parts Div.	27	Lasco Brake Products Corp., Ltd.	11
Clark-Feather Manufacturing Co.	162	Lee, K. O., Company	124
Cloyes Gear Works	99	Lempco Automotive, Inc.	120
Coiled Wire Tool Co. Inc.	110	 	
Columbia Broadcasting System	149	Magnus Chemical Co.	175
Columbian Vise & Mfg. Company	136	Mallory Electric Corp.	77
Commercial Credit Corp.	85	Marquette Manufacturing Company	65
Corbin Hose Clamp Div. American Hardware Corp.	127	Miley, L. J., Company	126
Curvemasters	32	Miller Manufacturing Co.	158
 		Minnesota Engine Works, Inc.	147
D & V Manufacturing Co.	117	Monroe Auto Equipment Co.	107
Dake Engine Co.	134	Morgan Wheel & Equipment	158
Dana Corporation	29	 	
Davis Auto Equipment Co. ....	..... Between pages 32-33 J-13	National Automotive Parts Association ..	157
Detroit Aluminum & Brass Corp. ....	..... Insert between pages J-8, J-9	National Motor Bearing Co., Inc.	108, 109
Detroit Surfacing Machine Co.	64	Neapco Products, Inc.	33, 150
Dill Mfg. Co., The	159	New Britain Machine Co., The	133
Ditzler Color Division Pittsburgh Plate Glass Co.	83	Niehoff, C. E., & Co.	95
DuPont, E. I., de Nemours & Co.	129	 	
Dura-Bond Engine Parts Company	24	P & G Manufacturing Co.	125
Duro Metal Prods. Co.	139	Paramount Distributing Company	146
		Paul's Manufacturing Co.	
		..... Between pages 32-33 J-8, 114	
		Pazzano Wrench Co.	150

Perfect Circle Corp.	.....	2nd cover
Permatex Company, Inc.	.....	3
Petersen Mfg. Company	.....	118
Postma Mfg. Co.	.....	137
Practical Products	.....	152
Pratt Industries, Inc.	.....	92
Proto Tools	.....	5
Purolator Products, Inc.	.....	35
Quickee Products, Inc.	.....	166
Quincy Compressor Co.	.....	142
Ramsey Corp.	.....	Front Cover
Rochester Products Division General Motors Corp.	.....	103
Ruby Chemical Co.	.....	134
Schrader's, A., Son Div. of Scovill Mfg. Co. Incorporated	.....	16
Sealed Power Corporation	.....	Back Cover
Siebring Mfg. Company	.....	158
Simplex Piston Ring Mfg. Co.	.....	114
Sherwin-Williams Co. Automotive Division	.....	8
Smith Welding Equipment Corp.	.....	155
Snap-on Tools Corporation	.....	72
Sommer & Maca Glass Machinery Co.	....	116
South Bend Lathe Works	.....	25
Southern Friction Materials Company	....	147
Spicer Mfg. Div. of Dana Corp.	.....	29
Starrett, L. S., Co., The	.....	105
Stoner Mfg. Corp.	.....	128
Sunnen Products Company	.....	84
Supercharger	.....	Between pages 32-33 J-7
Thompson Products, Inc.	.....	88, 89
Thor Power Tool Co.	.....	34
Thorsen Manufacturing Co.	.....	146
Timken Roller Bearing Company, The	....	12
Tinit Manufacturing Company	.....	153
Trainor National Spring Co.	.....	169
Triple-A Specialty Co.	.....	15
Tung-Sol Electric, Inc.	.....	94
Turner Mfg. Co.	.....	144
United Motors Service Div. of General Motors Corporation	.....	6, 7
United Parts Mfg. Co.	.....	104
U. S. Axle Company Inc., The	.....	170
Van Norman Co.	.....	13
Vellumoid Company, The	.....	140
Versnick Mfg. Co.	.....	145
Washburn Mfg. Co.	.....	158
Wausau Motor Parts Co.	.....	111
Weaver Manufacturing Company	.....	112
Westberg Mfg. Co.	.....	140
Wilton Tool Mfg. Co.	.....	Between pages 32-33 J-3
Wix Corporation	.....	115
Wood Specialty Mfg. Co. Division of General Cement Mfg. Co.	100
Zenith Carburetor Division	165
Zim Mfg. Co.	161



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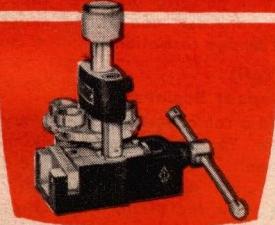
No. 274-F for $\frac{1}{8}$ " to 1" Each.....\$3.85



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Has Imperial's exclusive quick slip-on yoke—made of forged steel. Makes correct 45° flares on copper and aluminum tubing.

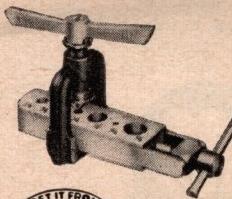
No. 193-F flares $\frac{3}{16}$ ", $\frac{1}{4}$ ", $\frac{5}{16}$ ", $\frac{3}{8}$ ", $\frac{7}{16}$ ", $\frac{1}{2}$ " O.D. tubing. Each.....\$4.35



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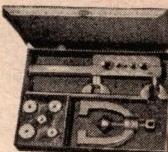
Makes precision double-lap flares on soft steel or other tubing for brake, oil and gas lines. Prevents splitting of tubing. Positive accurate control of flare size. Also makes single flares.

No. 250-F Double flaring tool for $\frac{3}{16}$ ", $\frac{1}{4}$ ", $\frac{5}{16}$ ", $\frac{3}{8}$ " and $\frac{1}{2}$ " O.D. tubing. Each\$15.95



No. 500-F Imperial Rol-Air Flaring Tool. Both flares and burnishes $\frac{3}{16}$ ", $\frac{1}{4}$ ", $\frac{5}{16}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{5}{8}$ " tubing \$9.25

No. 93-FB Double flaring tool for $\frac{3}{16}$ ", $\frac{1}{4}$ ", $\frac{5}{16}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ " O.D. tubing. In metal kit. \$8.95



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